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A
SYSTEMATIC ARRANGEMENT
OF
BRITISH PLANTS;
WITH AN EASY
INTRODUCTION TO THE STUDY OF BOTANY.
ILLUSTRATED BY COPPER PLATES.

BY WILLIAM WITHERING, M.D. F.R.S.

Member of the Royal Academy of Sciences at Lisbon; Fellow of the Linnean Society; Honorary Member of the Royal Medical Society at Edinburgh, &c.

THE FIFTH EDITION,

IN FOUR VOLUMES:

CORRECTED AND CONSIDERABLY ENLARGED

BY WILLIAM WITHERING, ESQ.

Late of the Universities of Glasgow and Edinburgh; Extraordinary Member of the Royal Medical Society; Fellow of the Linnean Society, &c.

"Primus gradus sapientiæ est res ipsas nosse." LINN.

"Inerescunt quotannis Scientiæ, emendantur quotidie, et ad fastigium suum optatum sensum sensumque, plurimum virorum opera et studio junctis, feliciter præperant." THUNBERG.

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CLASS I.

MONANDRIA.

MONOGYNIA.

(1) *Flowers with stamens, and flowers with pistils on the same plant.*

CHA'RA. Male. *Calyx* none.

Fem. *Calyx* 4 leaves. *Summit* 3-cleft. *Seed* 1.

[*Salix monandra*.]

(2) *Hermaphrodite flowers.*

HIPPU'RIS. *Calyx* none. *Blossom* none.

SALICOR'NIA. *Cal.* 1 leaf, 4-cornered, lopped, belly-ing. *Bloss.* none.

[*Valeriana rubra*, *Alchemilla arvensis*, *Ophrys spiralis*, *ovata*.]

DIGYNIA.

CALLITRICHE. *Cal.* none. *Bloss.* 2 petals. *Capsule* 2-celled.

[*Festuca myurus*.]

TETRAGYNIA.

ZANNICHEL'LIA. Male. *Cal.* none. *Bloss.* none.

Fem. *Cal.* 1 leaf. *Bloss.* none.

Seeds 4.

CHA'RA. Male. *Calyx* none: *Anther* at the base of the germen.

Fem. *Cal.* 4-leaved: *Summits* 5-cleft: *Seed* 1.

CH. Prickles on the stem egg-shaped.

tomento'sa.

H. ox. xv. 4. 9-*Pluk.* 29. 4.

- *Plant* always flesh-coloured when alive, but when dry, ash-coloured. *Stem* twisted, LINN. Brittle and gritty in the mouth. *Root* fibrous.

(*C. hispida*. β Fl. Brit. Dr. Smith seems to think this plant scarcely differs from *C. hispida*; and that Linnæus was rather hasty in the appropriation of synonyms. *Fl. Brit.* E.)

Brittle Stonewort. Ditches and pools. Peat ditches in Lancashire and Westmoreland, common. (In the rivulet that runs from Malham Tarn before it sinks into the ground. Mr. WOOD.) (On a bog nearly opposite the house of Alyn Bank, near Mold, Flintshire. Mr. GRIFFITH. E.) [A. June—Oct.

vulgaris.

CH. Stems without prickles: leaves toothed on the inner side.

E. bot. 336—*Hedw. th.* 32. 33—*C. B. pr.* 25; and *th.* 251—*Park.* 1201. 10—*J. B. iii.* 731. 2.

Stem thread-shaped, but little branched, 6 to 9 inches long, flexible. *Leaves* thread-shaped, tapering, but just thinner than the stem; in whirls, expanding, mostly as long as the joints of the stem, jointed: the knots with prickles and often fructifications on the inside. *Flowers* either hermaphrodite or male, or female, on the same, or on different plants; sitting; both tawny and white in the same plant, on the inner side of the leaves towards their base, 2 or 3 on a leaf, numerous on the upper whirls, distinct. *Cal. leaves* bristle-shaped, the 2 outer nearly twice as long. *Anther* projecting as it were from out of the calyx; evidently adhering to the base of the germen, and separable with it; unchanged in its form and none burst, in numbers which I examined, from whence some might be induced to suspect it to be rather a nectary. *Seed-vessel* tapering and greenish towards the end, which is crowned with 5 teeth, mostly shorter, but sometimes longer than the calyx. *Seeds* very numerous, and very minute, yellowish or white. In one male plant I found the calyx the same as in the hermaphrodite flowers. *St.*—*Plant* green when fresh, and extremely fetid; glaucous when dry, and very brittle. *Leaves* sometimes 10 or 12 in a whirl. **WOODWARD.**—*Leaves* from 6 to 12 in a whirl. The teeth or prickles on the upper or inner side of the leaves are near the base, and more numerous on the upper than on the lower leaves. The stem and leaves are studded, not uniformly incrustated, with a hard whitish, gritty substance, which gives them, when fresh and magnified, some resemblance to the scalliness of a snake. The stems are much disposed to twist spirally, and are very brittle when dry.

Common Stonewort. *Stinking Water Horse-tail.* Ditches and pools. [Marl pit near Stafford. St.] A. July—Aug.

Var. 1. Smaller. HUDS.

Stems and *leaves* very slender. *Seeds* (anthers and germens) small, brown, shining, lying naked on the joints of the leaves. *R. Syn.*—(Dr. Smith suspects this var. only differs from the above by the accidental circumstance of growing in purer waters, thus escaping the calcareous incrustation. *Fl. Brit.* E.)

Sir P. Carteret's fish-ponds in Jersey. In a gutter in Peckham fields; not in the great ditches. *R. Syn.*

(Is the plant described and figured in *E. bot.* 2140, as *C. gracilis*, other than this var. of *C. vulgaris*? Or, as Mr. Dawson Turner seems to conjecture of *C. flexilis*, if we rightly understand his note in the *Bot. Guide*, p. 598. *E.*)

CH. Prickles on the stem, hair-like, in clusters.

hispidula.

E. bot. 463—*Fl. dan.* 154—*Pluk.* 193. 6.

Pale green when fresh. *Prickles* often bent down. LINN.—*Plant* covered with a stony crust, whence its grittiness between the teeth. ST.—*Plant* glaucous. *Stem* twisted spirally, its lower part and branches and lower leaves frequently naked; upper part thick set with prickles. *Leaves* 8 to 10 in a whirl. *Prickles* in bundles, at short distances on the upper side of the leaves, resembling half whirls. Not so fetid as the *C. vulgaris*. MR. WOODWARD.—*Whole plant* with a strong scent of garlic, green. *Stem* branched. *Leaves* 8 or 10 in a whirl. *Germs* egg-shaped, of a dull pale yellow. *Summits* dirty green. *Anther* orange-coloured.

Prickly Stonewort. Ditches and pools, in Yorkshire, Lancashire, and Westmoreland. Turf bogs, Ellingham, Norfolk. MR. WOODWARD.—At the bottom of a spring in a meadow near Gayton, Staffordshire. ST.—(Formby ten miles N. of Liverpool. DR. BOSTOCK. Peat pits in Anglesea; not uncommon. REV. H. DAVIES. *Bot. Guide.*—In the water course by the side of Hinton Moor, Sawston Moor, &c. Cambridgeshire. RELHAN.—In the bog-pools on Wareham and Poole or Cranford Heath. PULTENEY.—Stagnant waters about Rhyd Marsh, Flintshire. MR. GRIFFITH.—Cromlyn Bog, near Swansea, with *C. flexilis*; and also on Finchley Common, Middlesex. MR. J. WOOD, jun. *Bot. Guide.*—Pools on Hartley Links, Northumberland. MR. WINCH.—Frequent in the fen commons of Suffolk. *E.*)

[June—Oct.*

CH. Neither prickly, nor incrustated: leaves mostly forked. *flexilis*,

E. bot. 1070—*Schmidel* 14.

Stems 1 to 2 feet long, floating under water, but near the surface, covered not as the rest of this genus, with a crust, but with a thin green rind. *Leaves* in whirls, which, towards the root,

* (Mr. Brunton (in the *Botanist's Guide*) observes that in the ditches near Ripon, where the water has never touched lime stone, this plant is beautifully green; in which case it possesses the property of absorbing carbonic acid gas, by which the lime has been held in solution, in a greater degree than any other water plant, except perhaps *Chara vulgaris*. *E.*)

MONANDRIA. MONOGYNIA. *Chara*.

are 2 inches and upwards from each other, towards the end from 1 to $\frac{1}{2}$ an inch; of the same structure with the stem, when fully grown from 1 to $1\frac{1}{2}$ inch long. *Fructifications* naked, on the upper whirls, on the divided leaves at the fork, and on the simple leaves about the same distance from the base. *Cal.* none, not even prickles as in other species. *Anther* always single, sometimes solitary, but mostly with 2 germens: generally between them, but where only 1 germen, sometimes on one or the other side, or above it, never below, as in the other species; when first appearing, white or straw-coloured, as it advances pale yellow, becoming of a wax-like substance, when ripe of a reddish saffron colour, and at last brown, for the greater part hollow within, not divided into cells, but containing some pulp intermixed with very tender fibres or membranes, and some mealy grains of a saffron colour; never opening spontaneously; gradually shrivelling, rotting and wasting away. *Seed-vessel* oval, somewhat tapering towards the point; the coat thinish, composed as it were of 5 segments rolled spirally round and terminating in the 5 summits. *Nucleus* covered with a very thin membrane, not marked with spiral lines, full within of very white transparent globules, some spherical, others a little compressed, destructible by pressure, not wrinkled; whether to be considered as seeds I do not determine. SCHMID.—The anther accords with that of *Ophrys* and *Orchis*. ST.

Smooth Stonewort. Ponds, ditches, and bogs. Ponds about Henley, not far from Ipswich. In a bog where the stinking spa empties itself near Knaresborough. *R. Syn.*—Salt water ditches near Hornsey. HUDS.—Loch Lomond. PARSONS.—Hill-Loch, on Crag Chaillech, Breadalbane, and at Comrie 4 miles from Crief. Mr. STUART.—In the third stew from the house at Edgbaston, near Birmingham. (In Llynald, Llanfannon, Denbighshire, where I have seen it many yards in length. Mr. GRIFFITH.—Gravel pits on Epping Forest. Mr. E. FORSTER, jun. In Anglesea, not rare. Bot. Guide. E.)

A. June—Oct.

(Var. 1. Larger, transparent, flexible.

Act. Paris. Ann. 1719. t. 3. f. 8.

β . of Dr. Smith. Found in Berrington Pool, Shropshire, by the Rev. E. Williams. *Fl. Brit.*

Dr. Smith, since the publication of *Fl. Brit.* has received fresh specimens discovered by Mr. HOOKER, at Brawston, Suffolk, and is now inclined to believe it a new species, which in

E. bot. 1855.

he names *Chara translucens*, and chiefly distinguishes it by the transverse internal partitions, as observed by Vaillant. E.)

SALICORNIA. *Cal.* rather bellying, entire: *Stam.*

1. (or 2:) *Seed* 1.

S. Herbaceous, wide spreading: joints flatted at the top, herba'cea. and notched.

Fl. dan. 303—*Blackw.* 598—*Bast.* ii. 10. 3—*Matth.* 465—*Dod.* 82. 1—*Lob. adv.* 170. 2—*Ger. em.* 535. 1—*Pet.* 9. 3—*E. bot.* 415—*S. annua*, and 4—*H. ox.* v. 33. 8—*J. B.* iii. 705. 2. n. 1. 11. 111—*Park.* 280. 4—*Barr.* 192.

Widely spreading; hardly 9 inches long. LINN.—*Spike* jointed. *Flowers* near together, in the clefts of the joint, 3 on each side. **BAST.**

Salicornia Europæa herbacea. HUDS.—*Jointed Glasswort.* *Saltwort.* *Sea-grass.* *Marsh Samphire.* Sea shore, common. *A. Aug.*—*Sept.**

(*S.* Stem upright, shrubby: joints round, equi-distant. frutico'sa.

Pet. 9. 4.

Evergreen, much larger than *S. herbacea*.—*Joints* nearly of an equal thickness; blunt, very near together. *Stem* more branched than in the preceding species. GER.

Salicornia Europæa fruticosa. HUDS. *Shrubby Samphire.* In the Isle of Shepey.—In the Isle of Grain in the Thames. DILL.—On the sea shore from Weymouth to Rhodipole. Mr. YALDEN. *Fl. Brit.*—On the borders of Shoreham harbour, Mr. BORRER. *Bot. Guide.* *P. Aug.*—*Sept. E.)*

HIPPU'RIS. *Cal.* none: *Summit* simple: *Seed* 1.

H. Leaves awl-shaped; 8 in a whirl.

vulga'ris.

Dicks. h. s.—*Curt.* 287—*E. bot.* 763—*Giseke* 32—*Fl. dan.* 87—*Dod.* 113. 2—*Lob. ic.* i. 792. 2—*J. B.* iii. 732—*Ger.* 957. 6, misprinted 953—*C. B. th.* 243. 4—*Park.* 1200. 4.

Leaves narrow: growing in whirls round the joints, 12 or more at each joint. *Flowers* equal in number to the leaves. *Stem*

* The young plant is herbaceous, the older one somewhat shrub-like, in which state it has been considered as the *S. fruticosa* of Linnæus, but the *S. fruticosa* is not a native of Britain. Dr. Goodenough and Mr. Woodward. (Upon this testimony, (corroborating the opinions of Lightfoot and Hudson,) in the third and fourth editions of the Arrangement of British Plants, this plant was included with the *S. herbacea* as one species. On further investigation, and particularly in compliance with the decision of Dr. Smith, in the *Fl. Brit.* it is again restored to the distinction of a separate species, on the original plan of Linnæus. E.) From the ashes of this plant, a fossil alkaly is obtained, which is in great request for making soap and glass. It is chiefly made on the coast of the Mediterranean, and is called Soda. The green plant steeped in salted vinegar, makes a pickle very little inferior to Samphire. The whole plant has a saltish taste, and is greedily devoured by cattle.

MONANDRIA. DIGYNIA. Callitriche.

straight, jointed. The flower of this plant is found at the base of each leaf, and is as simple as can be conceived, there being neither calyx nor blossom; and only 1 stamen, 1 pistil, and 1 seed. LINN.

Common Mares-tail. Paddowpipe. Muddy ponds and ditches; not common. Lochend and Duddleston Loch, near Edinburgh. Mr. BROWN.—Lake in Torworth Park, Gloucestershire. Mr. BAKER.—Almost every where in muddy ditches in the N. W. of Lancashire. Mr. HALL.—About a mile from Stafford, in ditches adjoining the foot-road to Aston.—(At Bootle, and in ditches about Formby, near Liverpool. Dr. BOSTOCK.—About Bungay, Suffolk, very common. Mr. WOODWARD. Ditches adjoining Rhyd Marsh, near Prestatyn, Flintshire. Mr. GRIFFITH. E.) P. May.*

DIGYNIA.

CALLITRICHE. *Cal.* none: *Petals* 2: *Seeds* 4; naked, with a membranaceous border on one side.

ver'na.

CAL. Upper leaves oval; not notched at the end.

E. bot. 722.

Stems feeble, numerous. *Bloss.* small, white. *Upper leaves* growing near together in form of a star; lower ones in pairs. It flowers in the spring.

Vernal Stargrass. Water Starwort. Water Fennel. Star-headed Water Chickweed. C. aquatica. Fl. Brit. Ditches, ponds, and very slow streams, frequent. Apr.—Aug.

Var. 2. Leaves oblong. Flowers either male, female, or hermaphrodite.

Ger. 830. 3—*Park.* 1258. 10—*Pet.* 6. 3.

Barren and fertile flowers frequently opposite to each other, on different sides of the stem, in the bosom of the corresponding leaves. Mr. WOOD.—All the leaves sitting. *Lower leaves* spear-shaped, opposite, distant. *Upper leaves* slightly notched at the end. *Fertile flowers* in the bosom of the lower leaves; barren ones amongst the upper leaves, which are crowded together. *Petals* thick, flat, bowed inwards, at the edge like a crescent. When magnified they appear to be a collection of air-vessels, and are undoubtedly intended to float the flower.

In ditches and still waters, frequent. A. Apr.—Aug.

* It is a very weak astringent. Goats will eat it, but cows, sheep, horses, and swine refuse it.

MONANDRIA. TETRAGYNIA. Zannichellia.

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Var. 3. All the leaves roundish, on leaf-stalks, very entire ; in pairs, except the lower ones. HALL. 553.

Fl. dan. 129-*J. B.* iii. 786. 2-*Park.* 1263. 2-*Fructification.*
Vaill. 32. 10.

Var. 4. Leaves egg-shaped. Stamens and pistils in various dispositions. Scop.

Col. ecphr. 316.

In places where water, that stood during the winter, has been dried up.

CAL. All the leaves strap-shaped, cloven at the end, autumnal'is. Flowers hermaphrodite.

Pet. 6. 4-*Gmel.* iii. 1. 2-bad.

Leaves oblong. Stamens and Pistils in different plants. Scop. Bloss. yellowish white.

Autumnal Stargrass. *C. aquaticay.* *Fl. Brit.* Flowers also in the early part of summer. SMITH. Ditches and still waters, frequent. A. Sept.*

TETRAGYNIA.

ZANNICHEL'LIA. Flowers male and female on the same plant; without petals.

M. Cal. none.

F. Cal. 1 leaf, bell-shaped: Seeds about 4.

ZANNICHELLIA.

palustris,

Var. 1. Anther 2-celled: summits scolloped. MICH.

Mill. ill.-Fl. dan. 97-*Pluk.* 102. 7-*Pet.* 6. 2-*Mich.* 34. 2.

Seeds either entire or toothed on the back. HUDSON. RELHAN. The uncommon breadth of the summits is the most remarkable peculiarity in this plant; and whether they float upon the surface of the water, or are sunk beneath it, they are equally calculated to receive the pollen from the anthers which stand above them. ST.—The habit of a Potamogeton; slender and much branched. Leaves thread-shaped, grass-like, 2, 3, or 4 out of the same sheathing stipulæ. Seed-coats sitting, 3 or 4, placed crosswise in the bosom of the leaves; somewhat compressed, with a toothed

* It sometimes grows so thickly matted together as to allow one to walk upon it without sinking. Dr. Sibthorpe assures us, that the *C. verna*, cultivated in the Oxford garden, changed into *C. autumnalis*. (Dr. Smith includes both the above species in one, [which he names *aquatica* and its var. *γ. E.*])

MONANDRIA. TETRAGYNIA. Zannichellia.

ridge on each side, and an awl-shaped termination, giving them some resemblance to a bird's claw. Mr. WOODWARD.

Horned Lakeweed or *Pondweed*. Ditches and stagnant waters. Ditches near Bungay, Suffolk. Mr. WOODWARD.—(Ditches adjoining Rhyd Marsh, near Prestatyn, Flintshire. Mr. GRIFFITH.—Between Formby land-mark and the sea, ten miles N. of Liverpool. Dr. BOSTOCK and Mr. SHEPHERD, Curator of the Liverpool Botanic Garden.—Tranmore pool, in the Mersey, opposite to Liverpool. Mr. SHEPHERD. E.) A. June—July.

Var. 2. Anther 4-celled: summits entire. MICH.

E. bot. 1844—*Mich.* 34. 1.

Leaves strap-shaped, flat, very entire, smooth, embracing the stem, 2 or 3 at each joint. *Flowers* from the bosom of the leaves, throughout the whole length of the stem, opposite, one with stamens on one side, and one with pistils on the other. *Female flowers* on the upper part of the stem near the male flower, on the lower part of the stem opposite to it. *Pistils* sometimes 5. *Summits* membranaceous, target-shaped, concave, flat, expanding outwards, 6 or 8 times as broad as the styles. *Seed-vessel* a dry berry, oblong, compressed, with 2 keels, tapering to a point. *St.*

Slow brooks and stagnant pools, not uncommon. Sept.*

CLASS II.

DIANDRIA.

MONOGYNIA.

[*Schænus albus*. *Schænus mariscus*. *Lepidium ruderale*. *Fraxinus excelsior*.]

(1) *Bloss.* 1 regular petal; beneath.

LIGUSTRUM. *Bloss.* 4-cleft. Berry 4-seeded.

(2) *Bloss.* irregular. Seeds in a capsule.

VERONICA. *Bloss.* border with 4 divisions, lower segment the narrowest. *Caps.* inversely heart-shaped.

PINGUICULA. *Bloss.* gaping, ending in a spur. *Cal.* 5-cleft.

* (Dr. Smith is of opinion that the var. 1. is no other than the more common var. 2. but the strong characteristics of Micheli, (perhaps enough to constitute a new species,) appear to us insurmountable. E.)

DIANDRIA. MONOGYNIA.

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UTRICULARIA. *Bloss.* gaping, ending in a spur. *Cal.*
2 leaves.

(3) *Bloss. irregular. Seeds naked.*

LYCOPUS. *Bloss.* nearly regular. *Stamens* wide apart.

VERBENA. (See *Didynamia Gymnospermia.*)

SALVIA. *Bloss.* gaping. *Filaments* fixed across a pedicle.
[*Salicornia herbacea.*]

(4) *Flowers superior.*

CIRCÆA. *Cal.* 2 leaves. *Bloss.* 2 petals inversely heart-shaped.

[*Salix hermaphrodita.*]

(5) *Stamens on the Pistil. The ORCHIS tribe.*

ORCHIS. *Nectary* ending in a spur.

SATYRIUM. *Nectary* ending in a purse.

OPHRYS. *Nectary* somewhat keeled.

MALAXIS. *Nectary* 1 leaf, heart-shaped, binding round
and inclosing the stamen and pistil.

SERAPIAS. *Nectary* egg-shaped; bulging on the under
side.

CYPRIPEDIUM. *Nectary* inflated, bellying.

(6) *Stam. and Pist. in separate flowers on the same plant,*

LEMNA. *M. Calyx* 1 leaf. *Bloss.* none.

F. Capsule 1-celled,

(7) *Stam. and Pist. in separate flowers on different plants.*

SALIX. *M. Cal.* Scale of a catkin. *Bloss.* none.

F. Summits 2. *Caps.* 2-valved. *Seeds* downy.

(8) *Flowers, either Male, Female, or Hermaphrodite.*

FRAXINUS. *Calyx* none; or with 4 divisions. *Bloss.*
none; or of 4 petals. *Seed* 1; spear-shaped.

DIGYNIA.

ANTHOXANTHUM. *Calyx*, husk with 1 flower;
oblong. *Bloss.* 2 husks; awned.

[*Buffonia. Serapias. Carex atrata. Bromus diandrus.*]

MONOGYNIA.

LIGUSTRUM. *Bloss.* 4-cleft: berry with 2 cells, 2 seeds in each cell.

vulga're. L. Leaves egg-shaped, blunt, panicle with 3 divisions.

Curt. 300—*E. bot.* 764—*Fl. dan.* 1141—*Kniph.* 5—*Mill.* 162. 2.
Math. 170—*Blackw.* 140—*Ger.* 1208—*J. B.* i. 528. 2—
Fuchs. 480—*Tragus,* 1005—*Ger. em.* 1394—*Suert.* ii. 38. 4.

Leaves sometimes growing by threes, and sometimes enlarged at the base. *Berries*, egg-shaped, continuing through the winter. *Scop.* Blossoms white; segments thick and fleshy. *Stamens* generally 2, sometimes 3 or 4, in each flower. *Leaves* egg-spear-shaped, very entire; growing in opposite pairs. *Fruit-stalks* a little woolly when magnified; every other part of the plant perfectly smooth. *Leaves* sometimes variegated with white. *Berries* black.

Privet. Prim. Print. Hedges in gravelly soils. Frequent in the Southern and Western Counties. (Rocks of Dunnerholme, and above Cartmel Wells, in the most exposed situation to the western sea. Mr. ATKINSON. Rocks at Knott's Hole, near Liverpool, very much exposed to the sea air. Dr. BOSTOCK. Hedges and copses in Huntingdonshire and Hertfordshire, common. Mr. WOODWARD. Lackenham, near Norwich. Mr. CROWE. E.) S. June—July.*

CIRCEA. *Bloss.* 2 petals: *cal.* 2-leaved, superior.

lutetia'na. C. Stem upright: bunches several: leaves egg-shaped. LINN. somewhat serrated; rough with hair. GMEL. Leaves egg-spear-shaped, hairy, somewhat serrated.

Curt. 202—*E. bot.* 1056—*Kniph.* 10—*H. ox.* v. 34. row. 3.
 1—*Lob. ic.* 266. 2—*Ger.* 280—*Lob. obs.* 137. 1—*Ger. em.* 351.
 1—*Park.* 351—*Fl. dan.* 210.

Stem a foot and half high; upright. *Leaves* somewhat serrated, opaque. *Bunches* terminating and lateral. *Cal.* much thicker and of a coarser texture than the blossom, and not of the

* The berries are filled with a dry spongy, violet pulp, from which a rose coloured pigment may be prepared. *Scop.* It is planted to make hedges; it grows fast, and may be raised from cuttings. Mr. SOUTHALL. (It bears the smokey atmosphere of great towns. *Fl. Brit. E.*) With the addition of allum, the berries dye wool and silk of a good and durable green: for this purpose they must be gathered as soon as they are ripe—the leaves are bitter and slightly astringent. Oxen, goats, and sheep eat it, horses refuse it. The insects observed to feed upon this plant are the *Sphinx Ligustri* and *Phalæna Syringaria*.

same colour. LINN. *Calyx*, hairs hooked and tapering to a fine point. GRIFFITH. (*Root* very much creeping; difficult to extirpate. *Fl. Brit. E.*) *Plant* smooth, or woolly, or rough with hair, sometimes red at the joints. *Leaves* upper, short: lower on long leaf-stalks. *Cup*, leaves reflected, egg-spear-shaped; coloured. *Petals* reddish white, alternating with the leaves of the cup. *Filaments* thickest towards the top; white. *Anthers* white. *Germen* hairy, egg-shaped but compressed; placed under, and at a small distance from the cup. *Style* thickest upwards, with a double green gland at its base. *Summit* a fine pink colour. *Caps.* set with white hairs, hooked at the end. *Seeds* 2. *Little fruit-stalks* after flowering, pointing downwards.

Enchanter's Nightshade. Common Enchanter's-wort. Woods; moist hedge bottoms, in shady lanes, not uncommon.

P. June—July—Aug.

C. Stem prostrate, supporting a single bunch of flowers: *alpi'na*. Leaves heart-shaped. LINN. Stem very much branched, depressed: leaves heart-shaped, toothed, pale. GMEL. Leaves heart-shaped, pointed.

E. bot. 1057—*H. ox.* v. 34. row 3. 1.

Stem prostrate, scarcely a finger's length. *Leaves* heart-shaped, toothed, shining. Different from the *C. Lutetiana*, but nearly allied to it. LINN.—Only 3 inches high when wild. *Calyx*, hairs granulated, and ending in a small globule. GRIFFITH.—The general opinion that this and the preceding are distinct species, is confirmed by HALLER, who tells us, that the *C. alpina* when cultivated in a garden does not become the *C. lutetiana*. But it has not proved an easy task to point out any certain and invariable differences, as appears by the many alterations made by Linnæus and others in their specific characters. The calyx and the joints being coloured or not; the leaves being hairy or smooth, opaque or pellucid, toothed or tooth-serrated; the panicle being one, or more than one; the plant being simple or branched, upright, or depressed, are circumstances which exist more or less in different specimens of both. Scopoli has justly observed, that the figure of the leaves affords the only specific distinction. In *C. lutetiana* the leaves are egg-spear-shaped; In *C. alpina*, heart-shaped. The latter is also a paler, a more delicate, and a smaller plant, not more than from 5 to 10 inches high, whilst the former, though sometimes nearly as small and as delicate, is generally half a yard high, or more.

Enchanter's Nightshade. Mountain Enchanter's-wort. [Rocky Woods in Lancashire, Westmoreland, and Cumberland. WOODWARD, At a small village called Storth, near Milnthorp, Westmore-

land. MR. GOUGH.—West side of Bala Lake, half a mile south of Llanychil. MR. GRIFFITH.—(About Dallam Tower, Westmoreland. ROBSON. Bank Wood, by Chapel Well, Cumberland. HUTCHINSON. Lorton, on the road between Heswick and Cockermouth. REV. J. HARRIMAN. Bot Guide.

P. July—Aug.

Var. 1. about the size of *C. Lutetiana*: stem upright, with only one flowering head. *Fl. Brit.* Leaves of a yellower green. WOOD.

Fl. dan. 256.

C. alpina β . SMITH, *C. intermedia*. Ehrh. Herb. 101.—Growing about Leeds. MR. WOOD. In shady groves, near Matlock Bath, Derbyshire. SMITH. E.)

VERONICA. *Bloss.* border 4-cleft; the lower segment narrowest: *caps.* 2-celled; notched at the end.

(1) *Flowers in spikes.*

apica'ta,

V. Spike terminating; leaves opposite, blunt, scolloped: stem ascending; undivided. LINN. Spike conical: leaves spear-shaped: stamens much longer than the blossom.

E. bot. 2—*Fl. dan.* 52—*Kniph.* 4—*Clus.* i. 347. 3—*Lob. obs.* 250. 3—*Ger. em.* 627. 4—*Vaill.* 33. 4—*J. B.* iii. 282; 3 and 4—*H. ox.* iii. 22. 4.

Spikes sometimes more than 1 on a root. REICH.—*Leaves* spear-shaped. SCOP.—narrower in proportion to their length and more pointed than in the next species. *Stamens* much longer than the blossom. *Bloss.* blue. *Anthers* blue. (*Leaves* sometimes strap-shaped, and very entire. WOODWARD. E.)

Upright spiked male Speedwell. Smallest Fluellin. Mountainous moist pastures. Cavenham Heath, near Bury, Suffolk, and near Penny-Bridge, Lancashire. WOODWARD. (On the wall of St. John's College, RELHAN. Side of Llandidno Rocks, Carnarvonshire, and above the Lead Mines, near Prestatyn, Flintshire, and on the upper part of Cefn Rocks above the Cave, near St. Asaph. MR. GRIFFITH.—About Penzance. E.) P. June.

hy'brida.

V. Spikes terminating: leaves opposite, bluntly serrated, rough: stem upright. LINN. Spikes cylindrical: leaves spear-egg-shaped.

E. bot. 673—*Ray* 11. *good*.

Stems simple, ascending, about a span long. The terminating spike oblong. *Leaves* oval, rather blunt, downy, green on both sides; serratures large, blunt. *Leaf-stalks* bordered. LINN. *Bloss.* blue, the tubular part hairy within. *Leaves* thick and fleshy, rough, with short white hairs, which grow out of small prominent glands.

Welsh Speedwell. Bugle-leaved Speedwell. On Craig Wreiddin, Montgomeryshire. [Umpherhead, a steep rock at Cartmel Wells, plentiful. Mr. HALL. (Near Penny-Bridge, Low Furness, Lancashire. Mr. WOODWARD. Hyssra Bengam, and Trygyrylchi rocks, near the Glyder, Carnarvonshire. EVANS. St. Vincent's rocks, near the Giant's Hole, near Bristol. DYER. Bot. Guide. E.) P. July.

V. Spike terminating: leaves heart-shaped, sitting: floral-arven'sis. leaves spear-shaped, longer than the flowers.

Curt. 133-E. *bot.* 734-Col. *phyt.* 8-J. B. iii. 367. 2-Ger. 489. 8-Ger. *em.* 613. 7-Park. 762. 4.

This plant has hitherto stood in the 3d subdivision of the species, next after the *V. agrestis*, with the following character by Linnaeus: "Flowers solitary: leaves heart-shaped, jagged: "longer than the fruit-stalk,"-but it bears its flowers in such a spike-like form, that many Botanists have been deceived in their expectations of finding it in the 1st subdivisssion, and after much trouble have at length determined it to be the *V. spicata*, though not quite agreeing with the character. It must be allowed that the term spike is often used by Linnaeus himself with a greater latitude than its strict definition permits, and very often with less propriety than in the present instance.

Leaves hairy; marked with 3 longitudinal grooves. Flowers about a month later than the *V. agrestis*. Mr. DICKENSON.

Plant mostly upright, stiff and dry in its habit. *Root-leaves*, and sometimes the lower stem-leaves on leaf-stalks. *Bloss.* pale blue.

Wall Speedwell. Chickweed. On old walls; amongst rubbish; and fallow fields. A. May.

V. Spike terminating; flowers solitary: leaves with fin-ver'nal. ger-like divisions: fruit-stalks shorter than the calyx.

E. bot. 25-Rose. 2. 1-Fl. dan. 252.

Stem stiff, upright. LINN -*Leaves* cut into winged clefts; in one specimen gathered near Bury, spear-shaped, toothed, 7 lines long, though the whole plant only 2 inches high. WOODWARD. *Cal.* much longer than the blossom, and deeply divided into 4

spear-shaped, blunt, unequal segments. *Bloss.* blue; green at the base. *Floral-leaves* spear-shaped, blunt. *Fruit-stalks* very short: indeed so short as to give the assemblage of flowers the appearance of a spike, and justifies our removal of it from the 3d subdivision of the species. In its habit it has some resemblance to the *V. arvensis*, but is readily distinguished from that by its finger-like, or rather wing-cleft leaves.

Vernal Speedwell. Dry, barren soil: old walls and rocks, [near Bury, in the most dry and driving sand: the plant is frequently nearly buried in it. *WOODWARD.*] Discovered by Sir J. CULLUM.—(Balking Hill, Harleston, Norfolk. *Rev. H. TILNEY*, in *Bot. Guide.*—In the Rye at Wordwell, West Staw, and Icklingham, Suffolk. *Sir T. G. CULLUM*, ditto. E.) A. April—May.

officina'lis. V. Spikes on lateral fruit-stalks: leaves opposite: stem trailing.

E. bot. 765—*Ludw.* 100—*Curt.* 198—*Kniph.* 4—*Fl. dan.* 248—*Woodw.* 219—*Ger.* 502, 1—*Riv.* 93. 2. *Veronica*—*J. B.* iii. 282. 1—*Blackw.* 143—*Fuchs.* 166—*Trag.* 207—*J. B.* iii. 282. 2—*Math.* 693—*Dod.* 40. 3—*Lob. obs.* 250. 2—*Ger. em.* 626. 2 *Park.* 550. 2—*H. ox.* iii. 22. 7.

Little fruit-stalks shorter than the floral leaves. *Tube* of the blossom about half as long as the cup; white. *Border* pale purple; the broadest segment marked with 6 or 7 deeper purple streaks: the narrowest segment with 3, and each of the lateral segments with 4. *Leaves* egg-shaped, serrated; hairy underneath, and at the edges. *Floral-leaves* strap-shaped. Some of the *Fruit-stalks* are so near the end of the stem that at first view they appear terminating, but upon more accurate examination we find one or more pairs of leaves beyond them. *Bloss.* purplish blue.

Common Speedwell. *Male Speedwell.* *Fluellin.* Barren ground; heaths. [St. Vincent's Rocks.] P. May—Aug.*

(2) *Flowers in a bunch-like corymbus.*

(*fruticulo'sa.* V. *Corymbus* terminating, many-flowered, spiked; leaves spear-shaped, blunt; stems upright, somewhat shrubby; capsule egg-shaped, 4-valved.

E. bot. 1028—*Hal. t.* 16. *f.* 1.

Stems trailing and perennial at bottom, upright and dying down at top; rather downy. *Leaves* opposite, rather concave, sometimes scalloped, and hairy at the edges. *Calyx* with 4

* The leaves have a slight degree of astringency and bitterness. An infusion of them is recommended by Hoffman, as a substitute for tea, but it is more astringent and less grateful. It is eaten by cows, sheep, goats and horses. Swine refuse it.

equal clefts, slightly pubescent. *Fruit-stalks* longer than the floral leaves. *Capsule* hairy. *Corymbus* hairy, at last extending into a very long and leafy bunch. *Fruit* large. *Bloss.* pale flesh-coloured, white, or with bloody streaks, not large.

V. frutescens. Scop. *Flesh-coloured Shrubby Speedwell.* Moist mountainous situations in Scotland; on Cruchan, Argyleshire. Rev. Dr. WALKER.—Ben Lawers. Mr. BROWN. *Fl. Brit.* S. May—July. E.)

V. *Corymbus* terminating: leaves opposite: cups rough alpi'na. with hair.

E. bot. 484—*Hall. hist.* 15. 2—*Fl. lapp.* 9. 4—*Fl. dan.* 16.

Branchless. *Leaves* all sitting; lower leaves elliptical, middle leaves egg-shaped, upper leaves spear-shaped, and even strap-shaped and alternate; the larger leaves with 1 or 2 teeth. LINN.—Four or 5 inches high. *Spike* short, of 8 to 12 flowers, with an intermixture of floral-leaves. *Bloss.* small, not a fine blue. HALLER.—*Flowers* forming a compact head. Sometimes 4 or 5 teeth on the leaves.

On Ben Nevis, and on mountains near Garway Moor, ascertained by Mr. DICKSON.—On Ben Bourdi, and Lochain y Gair near Invercauld. Mr. BROWN.—(On the mountains of Badenoch. Mr. J. MACKAY. E.) P. Aug.

V. *Bunch* terminating, somewhat like a *corymbus*: leaves saxa'tilis. opposite, nearly egg-shaped, smoothish, slightly scalloped: fruit-stalks longer than the floral-leaves: stems and cups woolly.

Fl. dan. 342—*E. bot.* 1027—*Hall. hist.* 16. 1—*Jacq. coll.* 4. 5—*H. or.* iii. 22. 5—*Clus.* i. 347. 1—*Park.* 551. 7.

Leaves smooth, and almost glossy; serratures wide asunder. *Flowers* mostly terminating. *Bloss.* blue-red, with purple lines: lower segment paler, very small, not veined. *Fruit* egg-shaped, compressed; not notched at the end; valves 4, acute, opening with a jerk. HALLER. (*Flowers* 3 to 5 in a terminating *corymbus*. *Calyx* 4-clefted, nearly equal, blunt, woolly. *Fl. Brit.* E.)

Blue Rock Speedwell. On rocks; Ben Lawers. Found by Mr. DICKSON. P. June—July.

V. *Bunch* terminating, somewhat spike-like: leaves egg-serpyllifo'lia. shaped, smooth, scalloped. LINN. 3-ribbed. CURT. Stamens hardly longer than the blossom.

Curt-Fl. dan. 492—*E. bot.* 1075—*Walc.-Dod.* 41. 1—*Lob. obs.* 250. 4—*Ger. em.* 627. 2—*J. B.* iii. 285. 1—*Riv.* 99. *Veronica minima repens*—*Pluk.* 233. 4—*Ger.* 503. 3.

The difference betwixt this species and the *V. spicata*, though sufficiently obvious when the plants are compared, is not so from a comparison of the specific characters as given by Linnæus; but the stamens in the *V. spicata* being much longer than the blossom, whilst in the *serpyllifolia* they are generally shorter, the distinction of the two species can no longer occasion any difficulty; and if the flowering be past, the 3-fibred leaves of the latter, mentioned by Mr. Curtis, will still distinguish them. *Stems* cylindrical, ascending: several rising from the same root, but frequently each has its own particular root; and if branched it is only so near the root: bearing from 5 to 7 pair of leaves; mostly opposite; the upper ones intermixed with the flowers. *Leaves* egg-shaped, sitting, smooth, very slightly scolloped. *Upper floral-leaves* alternate, spear-shaped, twice as long as the fruit-stalks. *Flowers* on short fruit-stalks, one rising out of the bosom of each floral-leaf, and forming altogether a long, leafy, spike-like bunch, terminating. *Bloss.* pale blue; upper segment with 5 or 8 purple lines, lateral segments with 3; smallest segment white. *S. Vess.* fringed with hairs round the edge.

Smooth Speedwell. Paul's Betony. Meadows and pastures, not uncommon. P. May—June.

humifusa. V. Bunch terminating: leaves heart-shaped but roundish, slightly scolloped: stems creeping. DICKSON.

Plant entirely prostrate; *stems* a palm in length, or more, branched, creeping, striking root. *Leaves* roughish, near together: lower ones on leaf-stalks, opposite, often by threes or fours: upper leaves mostly sitting, and alternate. *Bunch* terminating, short. *Flowers* few, crowded together, on short fruit-stalks: of a pleasant blue. DICKSON.—About 3 inches high. Flowers 8 or 10. LIGHTFOOT.

V. serpyllifolia, *β.* Fl. Brit.. On very high mountains under wet shading rocks: whereas the *V. serpyllifolia* is only to be found in meadows and low pastures. Cultivated in a garden for three years, did not assume the characters of the *V. serpyllifolia*. DICKSON.—On the mountains of Badenoch and Lochaber. LIGHTFOOT.

Beccabunga. V. Bunches lateral: leaves egg-shaped, flat: stem creeping.

E. bot. 655—*Ludw.* 30—*Curt.—Kniph.* 9—*Sheldr. (Brookl.)* —*Woodw.* 20—*Riv.* 100—*Beccabunga—Walc.—Fuch.* 725—*Trag.* 188—*Blackw.* 48. 1 and 2—*Fl. dan.* 511—*Dod.* 593. 1—*Lob. obs.* 248. 3—*Ger. em.* 620. 1—*Park.* 1236. 1—*H. or.* iii. 24. 24—*Ger.* 496. 1.

Whole plant smooth and succulent. *Leaves* serrated with glands. *Germen* sitting on a thick yellowish green glandular substance. *Bloss.* blue.

Brooklime. Slow shallow streams, and near springs that seldom freeze. P. June—July.*

V. Bunches lateral: leaves spear-shaped, serrated: stem Anagallis, upright.

Fl. dan. 903—*Curt.* 332—*E. bot.* 784—*Ger.* 496. 3—*Pet.* 51. 12—*Ger.* 496. 2—*Ger. em.* 620. 2—*Riv.* 100—*J. B.* iii. 791. 1—*Blackw.* 48. 3—*H. ox.* iii. 24. 25.

Leaves opposite, sitting. Bunches of flowers ascending from the bosom of the leaves. *Bloss.* pale purplish blue.

Water Speedwell. Long-leaved *Brooklime.* Slow streams and shallow ponds. S. side of the King's Park, Edinburgh. Mr. BROWN.—Ditches about Tamworth.—(Crosby, and Garston, near Liverpool. Mr. SHEPHERD. E.) A. July—Aug.

Var. 1. *Bloss.* of a beautiful pink.

[Wide ditches on the sides of the road from Gloucester to Tewkesbury.]

V. Bunches lateral, thinly set with flowers, wide spreading, scutellata alternate: little fruit-stalks pendant: leaves very entire, strap-shaped.

Curt. 333—*E. bot.* 782—*Kniph.* 10—*Riv.* 96, *V. pal. angustifol.* —*Fl. dan.* 209—*J. B.* iii. 791. 2—*H. ox.* iii. 24. 27.

Bunches slender, limber, wide-spreading. LINN.—Plant either smooth or woolly. Stem often trailing, and sending out roots from the joints. *Leaves* nearly horizontal, spear-shaped, but narrow; set with 2 or 3 pairs of very minute teeth, mostly on the lower leaves. *Fruit-stalk* zig-zag. *Bloss.* white, or purplish.

Narrow-leaved Speedwell. Poor swampy soil. [Boggy meadows near Bungay; and in the Cambridgeshire Fens.—WOODWARD.—Broadmoor near Hales Owen. Ditches about Tamworth.]—(South end of Wavertree, near Liverpool, and about Bootle land-mark. Mr. SHEPHERD. E.) P. June—Aug.

V. Bunches lateral, of few flowers: cup rough with hair: montana leaves wrinkled, egg-shaped, scalloped, on leaf-stalks: stem feeble.

* The leaves are mild and succulent, and are eaten in sallads early in the spring. Cows, goats, and horses eat it, swine refuse it. This, and some other species of Veronica, afford nourishment to the *Papilio cinxia*, *Curculio*, and *Chrysomela Beccabunga*.

DIANDRIA. MONOGYNIA. *Veronica*.

Jacq. austr. 109—*Curt.* 220—*E. bot.* 766—*Col. ecphr.* 288—*Pet.* 51. 4—*H. ox.* iii. 23. 15—*Riv.* 93—*Park.* 589. 3.

Caps. round and flat, notched at the top and the bottom; LINN. (fringed. *Stem* covered with hairs. *Fl. Brit. E.*)—In its general habit this plant very much resembles the *V. chamædrys*, but if the sitting leaves of the latter, and the leaf-stalks of the former should not be thought sufficient to distinguish them, it may be further observed, that in the *V. montana* the leaves are reddish underneath, heart-shaped, but blunt; the stem and leaf-stalk, hairy, and the flowers smaller. *Bloss.* purplish, streaked. Its usual stations in moist woods and other shady places, do not well accord with its trivial name *montana*.—(In the Bot. Guide we find the following curious observation of Mr. Brunton: "I once planted this in a garden pot, when in one year it became so altered as to be called *V. chamædrys* by Dr. Smith, to whom I sent a specimen." E.)

Mountain Madwort. Stalked Speedwell. Woods at the west end of Powickham, Worcestershire. Dr. STOKES.—Kirkstall Abbey, Leeds. Mr. AIKIN.—Shortwood, Pucklechurch, Gloucestershire, plentiful. SWAYNE.—Woods near Roslin. Mr. BROWN.—(Armingham Wood, near Norwich. Mr. WOODWARD.—In most of the woods about Dover. Mr. DILLWYN.—Woods near Plasnewydd, and Baron Hill, in Anglesea. Rev. H. DAVIES.—On the bank below the wood at Friar's Goose, near Newcastle; Cawsey Wood; Heaton woods, &c. near Newcastle-upon-Tyne. Mr. WINCH. *Bot. Guide.*—Woods and hedges at Eversholt, Bedfordshire. ABBOT.—Woody part of the Devil's Ditch, Newmarket Heath. RELHAN.—Near the rivulet in Garn Dingle, near Denbigh, and in the upper wood at Tower, near Mold, and other woods about Mold. Mr. GRIFFITH.—Leigh Wood, by Bristol. DYER.—And about Coalbrook Dale, plentifully. Mr. TURNER, in *Bot. Guide.* E.) P. May—June.

Chamæ'drys. V. Bunches lateral: leaves egg-shaped, sitting, wrinkled, toothed: stem with 2 opposite rows of hairs.

Curt.—Kniph. 11—*Fuch.* 872—*Trag.* 203—*J. B.* iii. 286. 1—*Fl. dan.* 448—*Walc.—Ger.* 530. 4—*Riv.* 94—*V. prat. latif.*—*Clus.* i. 352. 1—*Ger. em.* 657. 3—*Lobel. obs.* 259. 4—*H. ox.* iii. 32. 12.

Bunches frequently opposite. *Bloss.* a fine blue.

Wild Germander. Germander Speedwell. Pastures, sides of hedges. (A variety of this plant with *white flowers* grows at Udimere, near Rye, Sussex. Mr. BORRER, in *Bot. Guide.* E.)

P. May.*

* The leaves are a better substitute for tea than those of the *V. officinalis*, being more grateful and less astringent. Cows and goats eat it, sheep, horses, and swine refuse it.

(3) *Fruit-stalks with 1 flower.*

V. Flowers solitary: leaves heart-shaped, on leaf-stalks, *agres'tis*. shorter than the fruit-stalks.

Curt.—*E. bot.* 783—*Fl. dan.* 449—*Riv.* 99. *V. fol. chamæd.*—*Walch.*—*Fuch.* 22.—*J. B.* iii. 367. 1—*H. ox.* iii. 24. 22—*Dod.* 31. 4—*Ger. em.* 616. 1—*Park.* 762. 4.

Bloss. blue; sometimes white. LINN.—Flowers early in April, often in March. *Bloss.* with some blue and some white segments. *Seeds* from 4 to 8 in each cell. MR. DICKENSON.—*Stems* feeble, trailing. *Leaves* serrated, serratures blunt; upper leaves nearly egg-shaped.

Germander. *Chickweed.* *Procumbent Speedwell.* Pastures and ploughed Fields. A. April to Sept.

V. Flowers solitary; leaves heart-shaped, flat, 5-lobed. *hederæfoli*

Curt. 110—*E. bot.* 784—*Walch.*—*Fl. dan.* 428—*Riv.* 99. *V. fol. hederæ*—*Dod.* 31. 1—*Lob. obs.* 247. 1—*Ger. em.* 616. 3—*Park.* 762. 3—*J. B.* iii. 368. 2—*H. ox.* iii. 24. 20.

Seeds with a dimple at the top; 2 in each cell of the capsule. LINN.—Wide-spreading, succulent. *Stem* a hollow cylinder, surrounding a strong elastic, thread-like fibre, as in the *Alsine media*. *Leaves*, lobes from 3 to 6, though mostly 5; very unequal, the middle segment by far the broadest. One fruit-stalk from the bosom of each leaf-stalk. *S. Vess.* like 2 united globes, rather than heart-shaped. *Calyx* fringed with long white hairs. *Bloss.* pale blue.

Small Henbit. *Ivy Chickweed.* *Ivy-leaved Speedwell.* (*Winter-weed.* In Norfolk, Mr. CROWE. E.) Hedge banks; ploughed fields. A. April—May.

V. Flowers solitary: leaves with finger-like divisions: *triphyll'los*. fruit-stalks longer than the calyx.

Curt. 68—*Fl. dan.* 627—*E. bot.* 26—*Riv.* 96. *V. fol. rutæ*—*Kniph.* 11—*J. B.* iii. 368. 1—*Lob. ic.* 464—*Ger. em.* 612. 5—*Park.* 1260. 6—*H. ox.* iii. 24. 23.

Stem sometimes unbranched. *Branches* from the bottom of the stem or near it, and rising to the same height as the stem. *Leaflets* in threes and fives. *Root-leaves* undivided, rarely found; well represented in J. B.'s figure. Lower *stem-leaves* heart-shaped, jagged. *Bloss.* blue. *Capsules* large: deeply notched. WOODWARD.—Although the leaves just above the root sometimes resemble those of the *V. hederæfolia*, the deep finger-like divisions of the upper leaves, and the want of leaf-stalks, preclude all possibility of their being mistaken.

DIANDRIA. MONOGYNIA. Pinguicula.

Upright Chickweed. Trifid Speedwell. Sandy fields. [Near Cockley Cley, Norfolk, and Bury, Suffolk. Mr. WOODWARD.]—(Fields at Barton Bandish, adjoining Swaffham Heath, Norfolk. Mr. TURNER, in *Bot. Guide*. Plentiful on Barham Heath. Rev. W. KIRBY; and Aldborough, the inclosure next the marshes at the entrance of the town. Rev. G. CRABBE, ditto. E.) A. April—May.

PINGUI' CULA. *Bloss.* gaping, ending in a spur:
Cal. 2-lipped, 5-cleft: *Caps.* 1 cell.

lusitanica. P. Nectary blunt, shorter than the petal: stalk hairy: capsule globular. (E. BOT.) Nectary thickest at the end. LINN.

E. bot. 145—*Lightf.* 6. 1.

Leaves nearly pellucid, marked with purplish veins, the edges rolled in. The flowers smaller, and with more of a reddish cast than in the *P. vulgaris*. RAY. The whole plant rather pubescent. *Fl. Brit.*—We are indebted to Dr. Smith for dissipating the doubts which had been entertained respecting this plant. It had been referred to the *P. villosa*, and *P. alpina*, but living plants sent by Dr. Pulteney, enabled him to decide that it is the *P. lusitanica* of Linnæus. *Stalk* hairy. *Bloss.* segments equal; lilac coloured.

Pale Butterwort. Marshes in Dorsetshire, Hampshire, Devonshire, and Cornwall frequent. HUDSON.—Near Air, and island of Lamlash, Scotland. Dr. HOPE.—About Kilkhampton. Midway from Oakhampton to Launceston, betwixt a great wood and the river, in boggy meadows. RAY.—[Lewesdon Hill, Dorsetshire. Mr. BAKER; more common in that county than *P. vulgaris*.—In a bog half way between Newton Limwady and Londonderry, by the road side. Mr. BROWN.]—(Marshes on Alderbury Common, Wiltshire. Dr. MATON, in *Bot. Guide*. In a little swamp on Maiden Down, opposite the Maidenhead Inn, Somersetshire. Mr. SOLE, ditto. Common in Hampshire. E.) P. June—July.

vulgaris. P. Nectary cylindrical, as long as the petal: capsule egg-shaped.

Dicks. h. s.—*E. bot.* 70—*Fl. dan.* 93—*Clus.* i. 310. 2—*Ger. em.* 788. 2—*Ger.* 644—*J. B.* iii. 546. 1—*Park.* 532. 2—*H. ox.* v. 7. 13.

Leaves covered with soft upright prickles, secreting a glutinous liquor. *Bloss.* violet, purple and reddish, with white lips, and an ash-coloured woolly spot on the palate. LINN.

Common Butterwort. Yorkshire Sanicle. On bogs. Broadmoor, about 3 miles S. West of Birmingham. Mr. BRUNTON.—On the N. West side of Malvern hills, but not on the S. or S. E. side. Mr. BALLARD.—(Crosby Marsh, near Liverpool. Dr. BOSTOCK.—Boggy ground in Norfolk and Suffolk, frequent. Mr. WOODWARD.—On the right hand side of the road leading over the moors from Whitby to Gisborough, about five miles from the latter place. E.) P. May.*

(P. Nectary cylindrical, pointed, as long as the petal: upper grandiflora. lip roundly lobed: lower reticulated: capsule egg-shaped.

E. bot. 2184.

Leaves nearly twice as large as those of *P. vulgaris*, more veiny and yellower. *Flower-stalks* from 6 to 9 inches high, more viscous and stronger. *Calyx* more obtuse. *Blossom* reticulated all over with dark blue veins, and twice as large as in *P. vulgaris*. It loses all its leaves and forms into little scaly bulbs in winter. *P. lusitanica* keeps its leaves all winter. *P. vulgaris* is not found where this species was discovered. *E. bot.*

Large-flowered Butterwort. This beautifully large and novel Pinguicula has been found growing plentifully in marshy ground in the west part of the county of Cork, by Mr. DRUMMOND, Curator of the Botanic Garden at Cork. P. May. E.)

UTRICULA'RIA. *Bloss.* gaping, ending in a spur:
Cal. 2 leaves, equal: *Caps.* 1 cell.

U. Nectary conical: stalk with few flowers.

vulga'ris.

E. bot. 253—*Fl. dan.* 138—*Riv.* 79—*Petiv.* 36. 11—*Ger. em.* 828. 5—*J. B.* iii. 783. 3—*Park.* 1258. 9—*Schmied.* 21. 12. at the bottom.

* If the fresh gathered leaves are put into the filtre or strainer through which warm milk from the rein-deer is poured, and the milk is set by for a day or two to become ascendent, it acquires consistence and tenacity; the whey does not separate, nor does the cream: in this state it is an extremely grateful food, and as such is used by the inhabitants in the north of Sweden. There is no further occasion to have recourse to the leaves, for half a spoonful of this prepared milk, mixed with fresh warm milk, will convert it to its own nature; and this again will change another quantity of fresh milk, and so on without end. LINN.—This did not succeed when tried with cows milk. Mr. HAWKES.—The juice of the leaves kills lice; the common people use it to cure cracks or chops in cows udders. LINN.—The plant is generally supposed injurious to sheep; occasioning a disease which the farmers call the rot. But it may be made a question, whether the rot in sheep is so much owing to the vegetables in marshy grounds, as to a flat insect called a fluke (*Fasiola hepatica*) which is found in these wet situations adhering to the stones and plants, and likewise in the livers and biliary ducts of sheep that are affected with the rot.—From experiments made on purpose, and conducted with accuracy, it appears, that neither sheep, cows, horses, goats, nor swine, will feed upon this plant.

Calyx permanent; its lower leaf very slightly notched at the end. *Bloss.* full yellow; with purplish red streaks. *Nectary* conical, blunt, lined with minute, shining, globular glands. *Filaments* thick, fleshy, crooked; fixed to the base of the germen. *Summit* 2 lips; one very small; the other broad, flat, thin, fringed at the edge. After the impregnation of the germen, this larger lip closes the aperture of the style. *Stalk* cylindrical, scaly towards the top, and dividing into three. *Leaves* in whirls; thread-shaped, greatly branched and forked; set with minute whitish harmless thorns, and hollow bags, which have a glandular appearance; they contain a transparent watery fluid, and a small bubble of air. They are pear-shaped, but rather compressed; with an open border at the small end, from the edges of which arise 3 or 4 very slender fibres, which perhaps are the real roots of the plant. This fluid, when greatly magnified, appears to contain a quantity of extremely minute solid particles.

Hooded Water-milfoil. Greater Bladdersnout. Wet ditches and stagnant waters. Ancot pool, near Salop. Mr. AIKIN.—In shallow waters on Birmingham Heath.—(Near Bootle, between Crosby and Formby, near Liverpool. Dr. BOSTOCK.—Boggy ground, in Norfolk and Suffolk, not unfrequent. Mr. WOODWARD. E.) P. July.

minor,

U. Nectary keel-shaped.

Schmied. 21—*E. bot.* 254—*Fl. dan.* 128—*Pluk.* 99.6—*Pet.* 36. 12.

Nectary indistinct; pointing downwards. *Mouth* of the blossom, gaping; without a prominent palate. *Roots* hair-like, very slender, swimming: beset with small membranaceous bladders. *Stalk* as long as a finger, simple, very slender; dividing toward the top into 3 fruit-stalks with 3 floral leaves. *Root-leaves* winged, hair-like; little leaves few; equal. *Cal.* with the lower leaf reflected. *Bloss.* 2 petals; gaping. *Upper lip* horizontal, heart-shaped, perforated at the base, fixed to the receptacle. *Lower lip* larger, heart-shaped, reflected at the sides; bulging at the base on the under side, prominent and keel-shaped. *Germen* egg-shaped. *Style* simple, short. *Summit* betwixt egg and tongue-shaped. *Bloss.* a paler yellow than the preceding species. LINN.

Lesser Bladdersnout. Ditches and muddy ponds. Common on bogs in Suffolk. [St. Faith's Bogs near Norwich. Mr. PITCHFORD.—Ditches adjoining Outerthwaite, near Flookburg in Cartmel, along with *U. vulgaris*. Mr. JACKSON.—Chartley Moss and Norton Bog, Staffordshire. Mr. BAGOT.—Bogs in Scotland and Ireland. Mr. BROWN.]—(Sparingly near Bootle and Little Crosby, near Liverpool. Dr. BOSTOCK and Mr. SHEPHERD.—Roydon Fenn, near Diss, Norfolk. Mr. WOODWARD.—Bogs at Ampthill; Potton Marshes, Bedfordshire.

ABBOT.—Hinton Moor, on the edge next the corn fields; Gamlingay quaking bogs, Cambridgeshire. RELHAN.—In a bog near the 3 mile stone between Wimbourne and Poole, Dorsetshire. PULTENEY.—Wet ditches near Rid, Yorkshire. Rev. Archdeacon PIERSON, in *Bot. Guide*.—Whixall Moss, Shropshire. Mr. A. AIKIN, ditto. E.) P. June—July.*

LYCOPUS. *Bloss.* 4-cleft; 1 segment notched at the end: *Stamens* distant: *Seeds* 4, blunt.

L. Leaves indented and serrated.

europæus.

Curt. 201—*Fl. dan.* 1081—*E. bot.* 1105—*Kniph.* 5—*Riv.* 22—*Pseud. marr. pal.*—*Math.* 1002—*Dod.* 595. 2—*Lob. obs.* 283. 2—*Ger. em.* 700. 1—*Park.* 1230. 1—*Pet.* 32. 5—*H. or.* xi. 9. 20—*Trag.* 9. 2—*J. B.* iii. 318. 2.

Cal. with 4 or 5 clefts; segments unequal. *Bloss.* whitish, with a tinge of purple; somewhat hairy within; upper segment slightly notched at the end; lower one with a few purplish spots on the inside. Betwixt the two stamens it is not uncommon to find two other *shorter filaments* without anthers; and I once found them with anthers. *Germen* set upon a yellow glandular receptacle. *Stem* with 4 corners and 4 hollow sides; a little hairy. *Branches* opposite, rising from the bosom of the leaves. *Leaves* a little hairy. *Flowers* several together in the bosom of the upper leaves.

Var. 1. *jagged.* Leaves deeply divided.

Barr. 154—*H. or.* xi. 9. 21—*Pluk.* 45. 1.

Water Horehound. *Horehound Gypsy-wort.* Sandy ground on the banks of streams and ponds. P. July—Sept.†

* (Roth and Hayne are of opinion that the two preceding species include a third, which they would name *U. intermedia*, and which they say is represented in *Fl. Dan.* 128.—*Annals of Botany*, v. 1. M. Hayne, of Berlin, has made the observation that the vesicles at the roots of each of these species consist of a transparent, tough, horny, and elastic membrane, and are furnished with an aperture, closed by a lid that only opens outwards. Before the flowers appear the vesicles are filled with water; but when the plant brings forth the scape, and approaches the time of flowering, the water disappears, and, instead of it, air is secreted in them, by which means the plant rises to the surface of the water; so that thus the flowers may unfold in open air. But when the time of flowering is over and the seeds are arrived at perfection, the vesicles again fill with the former fluid, and the plant sinks to the bottom. *Annals* v. 2. E.)

† It dyes black. The juice gives a permanent colour to linen, wool, and silk, which will not wash out; travelling gypsies stain their faces with it. Sheep and goats eat it.—Cows and horses refuse it. The *Cassida viridis* feeds upon it.

SALVIA. *Bloss.* gaping: *Filaments* fixed transversely to a little foot-stalk.

pratensis, S. Leaves heart-oblong; scalloped: upper leaves embracing the stem: flowers in whirls with hardly any intermixture of leaves: helmet of the blossom gummy.

E. bot. 153—*Fuchs.* 569—*Trag.* 53—*Dod.* 293. 1—*Ger. em.* 769. 3—*Riv.* 36—*Kniph.* 5—*Ger.* 627. 3—*H. or.* xi. 13. 10—*Clus.* ii. 30. 1—*Ger. em.* 771. 4—*J. B.* iii, 312. 2—(*Blackw.* 258, is *S. verbenaca*.)

Floral leaves about the length of the calyx. *Cal.* spread open. *Bloss.* bluish purple, 4 times as large as the calyx; helmet hooked like the handle of a walking stick. Its gumminess is not a constant circumstance, and therefore ought not to make a part of the specific character.

Meadow Sage, or Clary. Meadows and pastures. [Surry and Sussex, common. *St.*—Wick-cliffs, Gloucestershire. *Mr. SWAYNE.*]—(Near Llanidan, Anglesea. *BINGLEY.*—Limestone meadows about Port Eynon, Glamorganshire. *Dr. TURTON.*—In King's Thorp church-yard, Northamptonshire, abundant. *MORTON.*—Dry pastures between Middleton, Stoney, and Audley, Oxfordshire. *SIBTHORPE.*—In a pasture near Ford-end Farm, Bedfordshire. *Rev. T. O. MARSH*, in *Bot. Guide.* E.)

P. June—July.

verbenaca, S. Leaves indented, serrated, smoothish: blossom more slender than the calyx.

Curt.—*E. bot.* 154—*Clus.* ii. 31. 1—*Ger. em.* 771. 1—*Park.* 57. 8—*Black.* 258—*Barr.* 208—*H. or.* xi. 14. 33.

Floral leaves longer than the calyx. *Cal.* much wider than the tube of the blossom, but its segments not expanded and spread open. *Bloss.* not twice the length of the calyx; blue.

Wild Clary. Wild Sage. Meadows and pastures. [Kegworth Church-yard, Leicestershire, and about Chester. *Mr. CALEY.*—About Kinfare, Staffordshire, plentiful. *Mr. BRUNTON.*—On the Castle hill, Tamworth.]—(Lime rocks about Garu, Denbighshire. *Mr. GRIFFITH.* E.)

P. June.*

* The seeds when soaked in water for a few minutes get a dense mucilaginous coating round them not unlike frog spawn. The seeds of the *S. pratensis* have the same property, but in a less degree.

OR'CHIS. Nectary like a horn, behind the flower:
Bloss. gaping.

(1) *Bulbs of the root undivided.*

O. Lip of the nectary spear-shaped; very entire: horn bifolia.
 very long: petals expanding.

Dicks. h. s.—Curt.—*E. bot.* 22—Lüdw. 95—Hall. 35. 2, at ii.
p. 148—Kniph. 6—Walc.—Dod. 237. 2—Lob. obs. 88. 2, *ic.* i.
 178. 1—Ger. em. 211. 2—Park. 1351. 7—Pet. 68. 11—Ger.
 165. 9—H. ox. xii. 12. 18—J. B. ii. 771—Matth. 880. 2—
Fl. dan. 235—Blackw. 588—*Flowers only*, Vaill. 30. 7—
Seuguier. 15. 10.

Flower white, of a very sweet scent in the night. *Petals*,
 the outer expanding. *Lip* spear-shaped, very entire. *Spur*
 awl-shaped. LINN. *Leaves* shining underneath, as if varnished.

Butterfly Orchis. Shotoverhill and Tarwood, Oxfordshire.
 SIBTHORP.—(Very common in mountainous pastures in North
 Wales. Mr. GRIFFITH. E.)

Var. I. Leaves exactly oval.

There does not seem to be any exact figure of this variety.
 The plants are full 2 feet high; the leaves either two or three,
 exactly oval or elliptical, 6 inches long and 3 inches wide.

[Shortwood near Puckle church, Gloucestershire. Mr.
 SWAYNE.—Woods and shady lanes, Leicestershire, common.
 PULTENEY.—Woods at Envil, Staffordshire;]

Two other varieties of this species have been noticed by
 Ray, which may be thus characterized.

Var. 2. Leaves 2, egg-spear-shaped.

J. B. ii. 772—Park. 1350—Ger. 162—Ger. em. 211. 1—Lob. *ic.*
 178. 2.

These references are given by Mr. Ray, who also remarks,
 that the *flowers* are few, white, thinly set, extremely sweet, the
lip narrow, the *spur* very long, the *leaves* 2, broad, like those of
 lilies.

It is found in woods and thickets, and flowers in May. P.

Var. 3. Leaves 2 or 3, spear-shaped.

J. B. ii. 771. with 3 leaves—Park. 1351—Ger. em. 211. 2—Lob.
ic. 178. 1.—Such are the references of Ray, who also says, that
 it is a lower plant than the preceding, not above 9 inches high;
 that the *root-leaves* are three in number, narrower than in
 Var. 2, that it is found in pastures, and flowers a month later,
viz. in June.

There does not appear sufficient reasons for considering these
 as really distinct; the root-leaves are 3 in only one of the figures

referred to by Mr. Ray, and neither the height of the plant, the more or less egg or spear-shape of the leaves, nor yet the season of flowering, nor the stations, afford any very permanent distinctions. I have now before me several specimens gathered in June in the New Forest near the monument of Rufus, which agree with Var. 2, and amongst them is one with 3 leaves, and another with 4, acutely spear-shaped, and only 7 inches high. The greenish white colour of the blossoms, and the great length of the horn, distinguish them sufficiently from all other British species.

pyramida'lis. O. Lip of the nectary 2-horned, 3-cleft: segments equal: very entire: horn long: petals somewhat spear-shaped.

Jacq. austr. 266—*Ray*, 18, at p. 377—*Hall.* 35. 1, at ii. p. 148
—*E. bot.* 110—*Pet.* 68. 4—*J. B.* ii. 764. 1—*Clus.* i. 269. 1—*Ger. em.* 210. 4—*Park.* 1349. 4—*Flowers only*, *Vaill.* 31. 38.

Stem a hand's breadth high, jointed. *Leaves* 5 or 6; spear-shaped, pointed, membranaceous. *Floral leaves* spear-shaped, coloured, as long as the germen. *Flowers* purple; white ones have been observed by Maupi. *Petals* egg-spear-shaped, 3 approaching, the 2 lateral ones expanding, bent back. *Lip* broad, with 2 oblong longitudinal bulgings at the base. LINN.—*Spike* short, close, pyramidal: *horn* longer than the germen. RELHAN.—*Stem* 8 to 15 inches high. *Leaves* spear-shaped, acute. WOODWARD.—*Stem* and *leaves* of a silky glossiness; *leaves* strap-spear-shaped. *Flowers* whitish, purple. ST. The bulging protuberances on the lip of the nectary, give, as remarked by Dr. Smith, the distinguishing character of this species.

Late-flowering Orchis. *Pyramidal Orchis.* Meadows and pastures in a calcareous soil. [About Stocking-wood, Leicestershire, rare. DR. PULTENEY.—Road sides in the Northern parts of Northamptonshire. MR. PITT.] P. June—July.

Var. 2. *Flowers* white. LINN. ST. RELHAN. WOODWARD. Chalk pit Close. RELHAN. (and on Bordean Hill, Hampshire. PULTENEY. E.)

mo'rio.

O. Lip of the nectary 4-cleft, finely scalloped: horn blunt, ascending: petals blunt, approaching. LINN. Lip of the nectary with 3 lobes, the middlemost notched at the end.

Curt.—E. bot. 2059—*Walc.—Dod.* 236. 2—*Lob. obs.* 88. i.; *ic.* i. 176. 2—*Ger. em.* 208. 2—*Park.* 1347. 4—*Ger.* 158. 6—*Fuchs.* 559—*J. B.* ii. 761. 3, *Lonic.* i. 202. 1—*Hall* 33. 2, at ii. p. 144—*Fl. dan.* 253—*Vaill.* 31. 13. and 14, *flowers only*.

Flowers purple, rather few. *Petals* all blunt, marked with lines approaching. *Lip* bent back, finely scalloped at the sides, with 3 clefts, the middlemost nicked. LINN.—*Flowers* 6 to 12, loosely disposed. *Horn* shorter than the germen. *Lip of the Nectary* very broad, the middle segment dotted, smaller than the side ones. RELHAN.—*Leaves* sea-green, shining. WOODWARD.—Sometimes spotted in the Spring, the spots growing paler as the flowers advance. Mr. STACKHOUSE.—Differs from the *O. mascula* as follows: *Stem* lower. *Spike* of fewer flowers. *Bulbs* small, round, one fixed to the base of the stem, the other connected by a fibre of the thickness of a pack-thread, and half an inch long. *Petals*, the 3 upper forming the hood, and covering the lower ones, always scored with 3 or 5 greenish veins. WOODWARD.—The green lines on the petals distinguish it from every other Orchis. RAY.

Var. 1. *Flowers* flesh-coloured, or white. RAY.

Meadow Orchis. Moistish meadows and pastures.

P. May—June.

O. *Lip of the nectary* 4-lobed, finely scalloped: *horn mascula*. blunt: upper petals turned back.

Dicks. h. s.—*E. bot.* 631—*Curt.* 121—*Hall.* 33. 1. at ii p. 144—*Kniph.* 7—*Woodv.* 90—*Fl. dan.* 457—*Sheldr.* 16—*Dod.* 236 1—*Lob. obs.* 87. 3; *ic.* i. 176. 1—*Ger. em.* 208. 1—*Park.* 1346. 1—*Walc.*—*Blackw.* 53—*Fuchs.* 555.—*J. B.* ii 763. 1—*Lonic.* i. 201. 1—*Matth.* 882—*Ger.* 158. 5—*Flowers only, Vaill.* 31. 12 and 11.

Flowers purple. *Petals*, the outer rather pointed, bent back. *Lip* with 3 clefts, the middlemost segment cloven, and longer than the side ones. *Spur* somewhat nicked. Very closely allied to *O. morio*, but differing as follows:—*Stem* as tall again. *Flowers* numerous. The 2 petals on the back bent backwards, and not all approaching into a helmet. The middlemost lobe of the *lip* the smallest. LINN.—*Bulbs* oval, both fixed to the base of the stem. *Stem* 12 to 15 inches high. *Leaves* spear-shaped, bright green and shining above, sea green underneath, with longitudinal parallel veins, usually with large brown spots. *Floral-leaves* longer than the germen. *Flowers* of a darker or paler purple, rarely white. *Petals* spear-shaped, pointed, the 2 lateral ones upright, and bent back to back, the middle ones expanding and lying over the 2 lower ones, which are closely approaching, and of a paler colour. *Lip of the nectary* dotted towards the base, broad, with 3 lobes, the side ones roundish, scalloped, the middle one notched at the end. *Horn* as long as the germen, broadest and somewhat compressed at the end—WOODWARD.

Early Orchis. Meadows and pastures.

P. May.*

ustula'ta.

O. Lip of the nectary 4-cleft, rough with dots: horn blunt: petals distinct.

Dicks. h. s-Hall. 28. 2, at ii. p. 140—*E. bot.* 18—*Fl. dan.* 103—*Clus.* i. 268. 1—*Ger. em.* 207—*Park.* 1345—*J. B.* ii. 765. 2—*H. ex.* xii. 12. 20—*Flowers only, Vaill.* 31. 35. and 36—*Seguier* 15. 4.

Stem angular. *Spike* close; with near 40 flowers. *Floral-leaves* as long as the germen. *Horn* much shorter. *Petals* purplish without; greenish white within. *RELHAN.*—*Leaves* 5 or 6, spear-shaped. *Spike* short (seldom an inch.) *Lip* white, with purple or purplish spots, with 3 divisions, the 2 outer segments expanding, spear-shaped, entire, with 1 or 2 teeth, the middle one longer, widening at the end, with 2 short lobes and an intermediate point. *WOODWARD.*—From 4 to 8 inches high. *Leaves* 4 to 6, more or less acute. *Floral-leaves* rather shorter than the germen. *Spike* egg-shaped. *Nectary*, middle segment of the lower lip always cloven, with or without a small projecting point in the cleft. This lip is white, with beautiful purple dots, but I have not found the roughness mentioned by Linnaeus.

* Mr. Moulton, in a letter to Dr. Percival, inserted in the *Phil. Trans.* vol. 59, p. 1, describes his method of making Salep. The best time to gather the roots, he observes, is when the seed is formed, and the stalk going to fall; for then the new bulb, of which Salep is made, is arrived at its full size. The new roots being separated from the stalk, are to be washed in water, and the outer thin skin taken off. They are then to be set on a tin plate, in an oven heated to the degree of a bread oven. In six, eight, or ten minutes, they will have acquired a transparency like horn, without being diminished in size. They are then to be removed into another room to dry and harden, which will be done in a few days; or they may be finished in a very slow heat in a few hours.—Salep thus prepared, may be sold for less than a shilling a pound, and affords a mild nutriment, which, in times of scarcity, in cases of Dysentery and Strangury, and on ship-board, may be extremely useful. See *Percival's Essays*, part ii. p. 37.—Mr. Moulton made his experiments upon the roots of this species only. The preceding species is undoubtedly equally proper for the purpose, and it is highly probable that every species of Orchis may be used indiscriminately. Salep has been hitherto imported from Turkey at a considerable price, but it is to be hoped, we shall no longer be supplied from foreign markets, with an article that our own country can supply us with in almost any quantity. If ever plantations of it are made, the plants must be propagated by roots, for the seeds seldom come to perfection. Dr. Percival observes, that he got some seeds to all appearance perfect, but they would not vegetate. (Mr. Salisbury, in a communication to the Linnean Society, (further noticed in vol. 1, p. 121) assures us that he finds no difficulty in raising plants from the seeds of many species of Orchidice, among which the *O. mascula* is particularly named, in his conservatory: and it may be further added that Mr. Hunter, Nurseryman, at Hockley, near Birmingham, has also succeeded in propagating plants of this tribe from seeds sown in a stove. E.)

Dwarf Orchis. Dryish meadows and pastures. Gogmagog Hills, Newmarket Heath, and Barneck Heath, near Stamford. WOODWARD.—On Wick Cliffs, and on the Wiltshire Downs. Mr. SWAYNE.—On Salisbury Plain, particularly upon the Barrows about Stonehenge.—(Barton Hill, Luton Downs, Bedfordshire. ABBOT.—In Nutford Field, near Blandford. PULTENEY.—Sea banks at Ryhope; East side of Cleadon Hills, Durham. Mr. THORNHILL and Mr. WAUGH, in *Bot. Guide*.—About Dover. Shouldham lime-kiln hill, Norfolk, but rare. Rev. R. FORBY, ditto.—Chalk bank, Risby Heath, Suffolk. Sir T. G. CULLUM, ditto.—Back of Juniper hill, near Dorking, Surrey. Mr. J. Woods, jun. ditto. E.) P. May—June.

O. Lip of the nectary 5-cleft; rough with dots: horn militaris. blunt: petals confluent.

Flowers in a spike, purplish or ash-coloured. *Petals* growing together. *Lip* 3-cleft; middle segment longest; rough with dots. *Spur* short, bluntish. LINN.—But half the length of the germen.

Var. 2. *Fusca. Broad-lipped Military Orchis. O. militaris* β . Fl. Brit. Lip 3-cleft, middle segment very broad, notched at the end, and a little point in the notch.

Curt. Jacq. austr. 307—E. bot. 16—Ray 19. 2. at p. 379—Hall. 31. at ii. p. 140—Flowers only, Vaill. 31, 27, 28—Seguier, ii. 15. 2.

With a greenish cast. JACQ. ic. *O. moravica*.—*O. militaris purpurea*. HUDS. ed. ii.—*O. fusca*. CURT.—From 8 to 12 inches high. *Spike* about 3 inches long. *Leaves* egg-spear-shaped. *Bloss.* varying much in colour, of a pale rose red, with sometimes a greyish cast on the lip, and of a deeper purplish hue on the upper petals.

Orchis fusca. JACQ.—On dry chalky soils, near woods and thickets. About Rochester, and near Northfleet, Kent.—(Marlow Wood, in plenty. Mr. GOTOBED; and woods between High Wycombe and Great Marlow, Bucks. Mr. J. RAYER, in *Bot. Guide*.—Near the old chalk pit by the paper mill at Harefield, plentiful, Middlesex. BLACKSTONE.—Caversham Warren, Oxfordshire. SIBTHORPE. E.) P. May—June.

Var. 3. Lip 3-cleft, segments strap-shaped.

E. bot. 1873—Hall. 28. 1. at ii. p. 140—Col. ecphr. i. 320. 2—Ger. em. 205. 2—Park. 1344—Fuch. 554—J. B. ii. 755—Trag. 778—Flowers only, Vaill. 31. 25 and 26.

Narrow-lipped Military Orchis. O. militaris. Fl. Brit. Meadows and pastures in a chalky soil. Cawsham Hills

by the Thames side not far from Reading, Berkshire, and near the old chalk-pit by the paper-mill at Harefield.— (Meadows near Dartford. Mr. PEET. E.) P. May.

It does not appear to me that these can well be made distinct species. The colours are confessedly variable, and in all the lower lip may be described 3-cleft; considering the middle segment as notched, with a projecting point in the notch; or as 5-cleft, when this little projecting point must be reckoned as one of the segments. The upper petals in all are confluent, and the lip dotted. The greater or lesser breadth of the middle segment of the nectary, is the principal difference. Dr. Smith remarks, that all the varieties smell like new hay, (and from continued attention to them in their native situations, that they greatly vary and interchange with each other. *Fl. Brit. E.*)

(2) *Bulbs of the root hand-shaped.*

latifolia. O. Bulbs somewhat hand-shaped, straight: horn of the nectary conical: lip with 3 lobes; the lateral ones bent back: floral-leaves longer than the flowers.

Bulbs straight, not much apart, divided into 2 or 3 fingers. *Leaves*, especially the lower, a little spotted. *Flowers* in a spike. *Petals*, the lateral ones bent back, those at the back expanding, with the hinder edges bent back. *Lip* folded behind, serrated, with 3 obscure lobes. Differs from *O. maculata* as follows:—*Floral-leaves* longer than the flowers. *Leaves* nearly without spots. *Stem* hollow. LINN.

Var. 2. LINN.—Middle segment of the lip blunt, as narrow again as the side ones, but of the same length. Sr.

Curt. 250—*Mill. ill.*—*Fl. dan.* 266—*Hall.* 32. 2, at ii. 142—*Dod.* 240. 1—*Lob. obs.* 90* 3. *ic.* i. 188. 1—*Ger. em.* 220. 1—*Park.* 1356. 1—*Ger.* 169. 1—*J. B.* ii. 774. 1—*Blackw.* 405—*H. ox.* xii. 14. 2—*Flowers only, Vaill.* 31. 35. 4.

Bulbs cloven into 2, each segment cloven and expanding. *Stem* 7 to 14 inches high, somewhat hollow. *Flowers* purple, the throat whitish, with purple dots. *Spike* oblong spear-shaped, one to two and a half inches long. Sr.

Broad-leaved, Handed Orchis. Moist meadows and pastures, and marshy ground, common. P. May—June.

Var. 3. LINN.—Middle segment of the lip egg-shaped, pointed, as long again as the side ones. Sr.

Vaill. 31. 2 and 1—*Walc.*—*Dod.* 241—*Lob. obs.* 91.* 3; *ic.* i. 190. 1—*Ger. em.* 222. 3—*Park.* 1358. 11—*Ger.* 171. 3—*Lob. obs.* 93. 1. *ic.* i. 191. 2—*Ger. em.* 226. 1—*Ger.* 174. 2—*Flowers only, Vaill.* 31. 2 and 1—*Park.* 1360. 16.

Lip of the nectary, lateral segments blunt. These variations I have observed in different plants, but Vaillant informs us that they are sometimes found in the same plant. **ST.**—*Stem* furrowed. *Leaves* spear-shaped; 4 to 6, in some plants spotted. *Floral leaves* coloured, longer than the germen. *Flowers* purple, nearly 40. *Spike* close. *Horn* blunt, shorter than the germen. *Lip* very broad, with deeper coloured lines; lateral segments finely scalloped, the middle one spear-shaped. **RELH.**—*Stem* about a foot high, smooth, angular towards the top. *Leaves* alternate, sheathing the stem to the spike, acutely spear-shaped, keeled, rarely spotted, and then very obscurely so. *Floral-leaves* much longer than the flowers, resembling the uppermost leaves, spear-shaped, pointed, sometimes with a tinge of purple. *Flowers* purple, flesh-coloured, or white. *Spike* somewhat conical. *Petals* spear-shaped, the middlemost of the 3 upper and outer with the 2 inner approaching. *Lip*, the middle lobe the longest, narrow, somewhat pointed, marked with dots and lines forming a regular figure, somewhat corresponding with the form of the lip. **WOODWARD.**

[In the same moist meadows with (1) between Battenhall and Worcester. **ST.**]

O. Bulbs expanding: horn of the nectary shorter than the macula'ta. germen: lip flat: petals on the back upright.

E. bot. 632—*Fl. dan.* 933—*Hall.* 32. 1. at ii. p. 142—*Lonic.* i. 203. 2—*Dod.* 240. 2—*Lob. obs.* 90.* 4; *ic.* i. 188. 2—*Ger. em.* 220. 2—*Park.* 1357. 3—*Trag.* 781—*Ger.* 169. 2—*J. B.* ii. 775. 2—*Lob. obs.* 91.* 1. *ic.* i. 189. 1—*Ger. em.* 222. 1—*H. ox.* xii. 14. row 2. 5—*Flowers only*, *Vaill.* 31. 9 and 10.

One of the *bulbs* floats in water, this nourishes the stem, the other sinks and bears the bud for the next year. *Stem* solid. *Leaves* spotted. *Floral-leaves* not longer than the flowers. *Flowers* sometimes white. *Petals*, the 3 outer upright, the 2 inner approaching. *Lip* with 3 lobes, scalloped, the middle segment quite entire, very narrow. **LINN.**—*Leaves* rather hoary, with oblong, transverse, darkish spots. *Spikes* close, conical. *Flowers* nearly 40, pale purple, with deeper lines. *Floral-leaves* longer than the germen. *Horn* blunt, as long as the germen. **RELH.**—*Bulbs* compressed; fingers much apart. *Stem* 6 to 18 inches high, cylindrical below, angular above. *Leaves* underneath silvery grey, with parallel green veins, above pale green, often partially covered with the same silvery skin; spots reddish brown, numerous, mostly oval and transverse, sometimes irregular, the edges of the upper ones decurrent, whence the angular appearance of the upper part of the stem in this and several

other species. *Flowers* sometimes nearly white, and without spots, when the leaves also are pale, and without spots. *Petals* spear-shaped, the 3 outer expanding, sometimes spotted. *Lip* deeply cloven into 3, marked with purple spots and lines; the lateral segments angular, the middle one spear-shaped. *Horn* bluntish, shorter than the germen. Differs from *O. latifolia*, in the lowermost leaf being always very blunt, the lip being deeply cloven into 3, and in its flowering later. WOODWARD.—*Floral-leaves*, the lower longer than the flowers, the upper shorter. ST. The *O. mascula*, and *O. morio*, have frequently spotted leaves, and on that account, from too much attention being given to the trivial name of this species, have sometimes been mistaken for it.

Spotted Handed Orchis. Woods, rich meadows, when the spike is large and a hand's breadth long; also in barren pastures, when the spike is only half the size, and with fewer flowers. RAY.

Var. 2. Leaves not spotted.

Auchandenny Woods, Scotland. PARSONS in *Fl. Scot.* 518.

conop'sea. O. Horn of the nectary bristle-shaped, longer than the germen; lip cloven into 3: two of the petals very much expanding.

Dicks. h. s.—Fl. dan. 224—*E. bot.* 10—*Hall.* 29. 2, at ii. 147—*Vaill.* 30. 8 and 8—*Fuchs.* 712—*J. B.* ii. 778. 1—*Lob. obs.* 91.* 2. *ic.* i. 189. 2—*Ger. em.* 223. 2—*Park.* 1358. 5—*H. ox.* xii. 14. 14—*Ger.* 171. 2—*Flowers only, Vaill.* 30. 8 and 8.

Resembling *O. pyramidalis*. *Petals*, the outer expanding. *Lip* finely scalloped; segments equal, the middlemost very entire. *Spur* very long, as in *O. pyramidalis*. LINN.—*Stem* 12 to 18 inches high, cylindrical below, angular above. *Leaves* spear-shaped, pointed; bright green, keeled, with a strong mid-rib, on each side of which is one strong rib, and 2 or 3 fainter veins; *lower stem-leaves* embracing the stem: the upper sitting, decreasing in size till they resemble the floral-leaves. *Floral-leaves* spear-shaped, acute, longer than the germen. *Spike* long, loose. *Flowers* flesh-coloured, or pale purple, very sweet. *Petals*, the middlemost of the outer and the 2 inner ones closely approaching, their points bent inwards, and covering the stamens; the 2 outer spear-shaped, at right angles with the lip of the nectary. *Spur* slender, semi-transparent, much longer than the germen. *Stamens* with 2 fleshy prominences at their base. *Summit*, the opening between the stamens very apparent. WOODWARD.—*Leaves* strap-shaped, doubled together lengthwise.

Upper lip of the nectary cloven; *Horn* crooked. The great length of the horn of the nectary is sufficient to distinguish it from every other species in this subdivision.

(Dr. PULTENEY found a variety bearing *white flowers* on Borden Hill, Hampshire. E.)

Red-handed Orchis. Meadows and pastures. [In a morass near Leeds. Mr. WOODWARD.—Knutsford Moor, Cheshire. Mr. AIKIN.—Pastures under Shortwood near Pucklechurch, Gloucestershire, and on the Wiltshire Downs. Mr. SWAYNE.—Dry pastures near Auchin Dewney, 7 miles from Edinburgh, and abundantly on the hilly grounds N. of the river Leven, Dumbartonshire. Dr. HOPE.] P. June.

(3) *Roots fibrous.* [Satyrium albidum.]

O. Bulbs thread-shaped: lip of the nectary egg-shaped; abortiva, very entire: stem leafless.

Jacq. austr. 193—*Hall.* 36, at ii p. 151—*Buxb.* iii. 1. 1.

Stem sheathed with scales. *Flowers* violet. LINN.—*Horn* conical, slightly curved, very much pointed. Mr. WOODWARD.

Purple Bird's-nest. *Bird's-nest Orchis.* Dryish meadows. Near Alton, Hampshire. *R. Syn.* P. May—June.

This has been supposed to be the plant intended by Ray, *Limodorum austriacum*, Syn. 383, but the figures to which he refers have the lip of the nectary cloven, and I believe we have no other place mentioned for the growth of the *O. abortiva* than that given from D. Goodyer in Ray's Synopsis; so that it is yet doubtful whether it really be a native of this country.

SATYRIUM. *Nectary* behind the flower; inflated, roundish.

S. Bulbs undivided: leaves spear-shaped: lip of the nectary 3-cleft; the middle segment strap-shaped, oblique; bitten off. *hircinum.*

Jacq. austr. 367—*Hall.* 25. at ii. 136—*E. bot.* 34—*Dod.* 237. 1—*Ger. em.* 210. 1—*Park.* 1348. 1—*Ger.* 160. 1—*H. or.* xii. 12. 9—*Lob. obs.* 90. 1. ic. i. 177. 1—*Ger. em.* 210. 2—*Park.* 1348. 2—*J. B.* ii 756—*Ger.* 160. 2—*Flowers only, Vaill.* 30. 6, and *Seguier*, 15. 1.

Plant tall. *Flowers* whitish, smelling like a goat. *Lip*, the middlemost segment very long, the lateral ones very short, awl-shaped, very entire. LINN.—The largest and tallest of our *Orchises*. RAY.—*Flowers* greenish white, purple within.

Lizard-flower, or *Satyrion*. Chalky meadows and pastures. Several places in the neighbourhood of Dartford, Kent. RAY.—(About Keswick. In chalky pastures by the side of Darent wood, two miles from Dartford; and in Haley wood pits, near Dartford Heath. Mr. J. Woods. jun. in *Bot. Guide*.—At the bottom of Clifton Hill; also in Colnwick wood, Nottinghamshire. DEERING. E.) P. June—July.

viride.

S. Bulbs hand-shaped: lower leaves oblong, blunt: lip of the nectary strap-shaped, 3-cleft; the middle segment indistinct.

Dicks. h. s.—E. bot. 94—*Hall.* 26. 2, at ii. p. 137—*Fl. dan.* 77—*Ger. em.* 224. 9—*Park.* 1358. 9.

Flowers pale, greenish. *Petals* approaching. *Lip*, the lateral segments narrower, the middlemost smaller. LINN.—*Stem* 5 to 11 inches high, solid; angles unequal, sharp, formed from the edges of the leaves and floral-leaves. *Spike* spear-shaped, 1 to 3 inches long. *Floral-leaves* awl-spear-shaped, keeled, somewhat bowed in. *Calyx*, tube investing the germen; *border* with 3 divisions; segments egg-shaped, nearly equal, with sharp longitudinal wrinkles approaching upwards, before flowering glued together, and involving all the parts of fructification, except the nectary; the side ones more convex on the outside, bowed back sidewise at the points, the middlemost rather smaller, more bent inwards. These, which are clearly an extension of the skin investing the germen, inclose as a calyx the other parts of fructification, and are of a texture similar to that of the floral leaves. *Blossom* of 3 petals, the 2 upper strap-spear-shaped, concave, upright, of a greenish whitish hue, as long as the calyx, inserted at the divisions at the base of the upper lip of the third petal. These are of a different texture from the calyx, as above described, are situated within it, and exactly resemble the texture of petals. The *third petal* gaping, with 2 lips, surrounding the edge of the germen; *upper lip* roundish, concave, reddish brown, as short again as the 2 upper petals, divided within into 2 cells, each containing 1 of the stamens, composed of 4 valves, marked at the base with a fleshy tooth; *lower lip* oblong, strap-shaped, bent back, somewhat longer than the calyx, flat, of a yellowish greenish hue, the *sides* and end tinged with brownish purple, the edges bent in at the base, with a longitudinal ridge running along the middle, cloven into 3 at the end, the lateral segments strap-shaped, bluntish, the middlemost very short, projecting underneath at the base into a nectary. I consider this as a petal, from its similarity to that of the *Fumaria*, and the whole class of *Personate*, which it exactly resembles. *Nectary* roundish, slightly furrowed along the middle, concave, hanging down from the base of the lower lip of the blossom. In *Fumaria* and the

Personatæ, the nectary, as here, is an expansion of the petals, containing an honey-like juice. *Anthers* unchanged on being moistened with water, and not containing any visible pollen. *St.*—*Spike* loose, with few flowers. *Floral-leaves* much longer than the flowers. WOODWARD.—*Stem-leaves* spear-shaped, pointed.

Frog Satyrion. Meadows and pastures, in gravelly soil; but rare. On Hellse-fellnab, near Kendal. HUDSON.—(Meadows between the house of Fron and the upper wood in the parish of Mold, Flintshire. Mr. GRIFFITH. E.)—Fields in the way to Glenfield near Leicester. PULTENEY.—Shotover-hill, Southleigh, Carnbury, Burford Down, Oxon. SIBTHORPE.—(Marlow Wood, Buckinghamshire. Mr. GOTOBED.—Stevington, Thurlough and Bletsoe Meadows, Bedfordshire. ABBOT,—King's Hedges; Hinton, in a pit near Chalk-pit Close, Cambridgeshire. RELHAN.—Cockers' Fields, Stayley Wood, Cheshire. Mr. BRADBURY.—Beamish Woods and fields adjoining, meadows near Moreton, Durham. Mr. WINCH.—Many places about Sunderland. Mr. WAUGH.—Meadow at Ugly, near a wood called Ugly Park, Essex. Mr. FORSTER.—St. Faith's, Newton Bogs, near Norwich. Dr. SMITH.—Meadow near Ludlow. Dr. EVANS.—Common about Yoxford, Suffolk. Mr. DAVY.—About Harleston, Suffolk, plentiful. Mr. J. TURNER.—Woods at Winterslow, near Salisbury. Dr. MATON.—Meadows and pastures about Great Comberton and Pershore, Worcestershire, abundantly. NASH.—Studley lime-kilns, and pastures near Rippon, not rare. Mr. BRUNTON, in *Bot. Guide*. E.)

P. June—Aug.

S. Bulbs bundled: leaves spear-shaped: lip of the nectary al'bidum.
3-cleft: segments acute; the middle one blunt.

Dicks. h. s.—*E. bot.* 505—*Fl. dan.* 115—*Hall.* 26. 1. at ii. p. 137—*Mich.* 26. *A. B. C.*

Haller seems fully justified in not separating these plants from the *Orchis*. *Stem* 9 to 15 inches high. *Leaves*, the lower oval, sheathing the stem. *Spike* long. *Floral-leaves* much pointed. *Petals* oval-spear-shaped. *Lip* short, the middle segment the longest. *Floral-leaves* longer than the germens. *Spur* about half as long; blunt, bowed back, but not double, as in *Gen. descr.* *Petals* white, lip green. WOODWARD.—*Spike* 1½ inch long, cylindrical. *Leaves* strap-spear-shaped.

White Satyrion, Moist meadows in Wales, and about Malham, Yorkshire. *R. Syn.* and Llanberys. Mr. DAVIES.—Dry mountainous pastures in Argyleshire and the Hebrides. LIGHT-FOOT.—[In the same places as *Orchis conopsea*. Dr. HOPE.]—(On the exposed grassy hills which surround Hafod, Cardiganshire. Miss JONES.—Found with *S. viride* in Cocker's Fields,

Stayley Wood, Cheshire. Mr. BRADBURY.—Mountainous pastures above Borrowdale. Mr. TURNER.—Near Whince Bridge, and the Whey Sike, Teasdale Forest, Durham. Rev. J. HARRIMAN.—Dallow Gill, Yorkshire. Mr. BRUNTON, in *Bot. Guide*.—Rocky pastures near Bluen y Nant, near Llyn Ogwen, Carnarvonshire. Mr. GRIFFITH. E.) P. June—July.

re'pens.

S. Roots fibrous: leaves egg-shaped, growing from the roots: flowers pointing one way.

E. bot. 289—*Jacq. austr.* 369—*Fl. dan.* 812—*Lightf.* 22. at p. 520—*Hall.* 22. 3. *Epipactis* at ii. p. 132—*Gunn.* ii. 6. 1—*Cam. hort.* 35—*Ger. em.* 227. 4—*Ger.* 175. 4—*Park.* 1355. 8—*J. B.* ii. 770. 2.

Root creeping. *Leaves* on leaf-stalks, with a network of brown veins. *Petals* 3, downy, glued together. *Lip* spear-shaped, or egg-oblong. In place of a *spur* a boat-shaped keel. LINN.—*Stem* a foot high, hairy, especially towards the top. *Leaves* near the base of the stem, with 5 to 7 ribs. *Leaf-stalks* broad, leafy. *Flowers* whitish, or straw-coloured, 15 to 20, from one side of the fruit-stalk turning round and looking to the other. *Floral-leaves* spear-shaped, longer than the germen, of the same colour with the flowers. *Lip* terminating behind in a bulging boat-shaped nectary, which makes it belong more properly to the genus *Serapias*. LIGHTFOOT.—It is from Dr. Smith, in *E. bot.* we learn that the roots are not bulbous, and that Mr. Sowerby found two internal spear-shaped petals, like those of *Orchis ustulata*.

Creeping Satyrium. Old mossy woods, but very rare. LIGHTFOOT.—About Moy-hall, near Inverness, and other places in Scotland. [In a wood near Gordon Castle. Dr. HOPE.]—(Mountainous woods in Northumberland. Mr. ROBSON.—Keswick. Mr. HUTTON, in *Bot. Guide*. E.) P. June—Aug.

O'PHIRYS. *Nectary* slightly keeled underneath.

(1) *Bulbs* branched.

vidus a'vis. O. Bulbs fibrous, bundled: stem sheathed, leafless: lip of the nectary cloven.

Dicks. h. s.—*E. bot.* 48—*Hall.* 37. 2. at ii. p. 149—*Fl. dan.* 181—*Trag.* 785—*Dod.* 553. 2—*Lob. ic.* i. 195. 1—*Clus.* i. 270. 1—*Ger. em.* 228—*Park.* 1362, *Orchis*, &c.—*H. or.* xii. 16, 18—*Pet.* 70. 3—*Flower and fruit only*, *Tourn.* 250. 3.

Whole plant brown. *Stalk* clothed with sheathing leaf-scales. REILHAN.—*Root* fixed laterally to the stem; fibres fleshy, in a thick bunch, more numerous and intricate than those of

O. bifolia. Stem 12 to 15 inches high, thickest at the base, firm, continuing long after the seeds are shed. *Leaf-scales* dry, numerous, embracing the stem. *Spike* cylindrical, 4 or 5 inches long, rather loose below, close above. *Floral-leaves* shorter than the germens, spear-shaped. *Petals* closely approaching, oval. *Lip* long, at first strap-shaped, but at the end cloven, the segments blunt, wide apart. *Capsules* on fruit-stalks, triangular, a prominent rib along each angle and side, the interstices plain. This and the *Orchis abortiva* are closely connected in habit with *Orobranche*, *Lathræa*, and *Monotropa*. Mr. WOODWARD.

Bird's-nest Twayblade. Woods and shady places, but rather rare. About Charlton, Maidstone, and Roehill, Kent; Aldburgh, Suffolk; near Ingleton, and in Offley Park. Heydon, Norfolk. Mr. BRYANT.—Buckham Wood, Cumberland. Mr. WOODWARD.—Woods on a limestone soil, not uncommon about Newton Cartmel. Mr. HALL.—Benthal-edge, Coalbrook Dale. —(Woods about Bath.—Marlow Wood, frequent. Mr. GOTOBED; and the wood near Temple-house, Bucks, plentifully. Rev. H. DAVIES.—In the Chase, a little to the east of Rushmore Lodge, and the Little Wood, at Chettle, Dorsetshire. Rev. Mr. CHAFFIN.—Cocken, in the wood at the west side of Whartonsaugh, Durham, and in the dingle above the old windmill on the right hand side. Mr. WINCH.—Wood on Laindow-hills, Essex. Mr. E. FORSTER, jun.—Woods near Pont Nedd Vachn, Glamorganshire. Mr. J. WOODS, jun.—Wood between Alkham and Ewel Minnis, near Dover. Mr. DILLWYN.—Gawdy Hall Wood at Harleston, Norfolk. Rev. H. TILNEY.—In Norbury Park, near Croydon, and on Ranmer Common. Mr. J. WOODS, jun.—Friary Wood, Hinton Abbey, Somersetshire; Thorp Arch Woods near Weatherby. Rev. Archdeacon PIERSON.—And in woods about Rippon. Mr. BRUNTON, in *Bot. Guide*. E.) P. May—June.*

O. Bulbs branched, zigzag: stem sheathed, leafless: lip of *Corallorhiza*. the nectary 3-cleft.

E. bot. 1547—*Fl. dan.* 451—*Gunn.* ii. 6. 3—*Hall.* 44. at ii. p. 159—*Clus.* ii. 220. 2—*Ger. em.* 1585. 2—*Park.* 1363. 5—*Ger.* 1387—*J. B.* ii. 785. 1—*Lightf.* 23, at p. 523—*Rupp. jen.* 2. 3—*Orobanchæ*, &c.

Stamens 4, in each cell 2. *Stalk* with only scales which are not green. HALL.—But, in a specimen in my possession, the lower sheath terminates in a real spear-shaped leaf, upright,

* Mr. Hall observes that the woods in the part of Lancashire where he lives, are cut down every 15 years; that for 6 or 8 years after they are cut, this plant is not to be found, but as soon as the grass is chiefly destroyed by the shade, it again makes its appearance, and in some places rather plentifully.

somewhat approaching, half an inch long, 2 lines broad, and above these 2 others which are shorter. WOODWARD.

Coral-rooted Twayblade. Marshy or moist woods, very rare. On the South side of a hanging wood, near the head of Little Loch-Broom, Rosshire. LIGHTFOOT.—In woods of fir in the North of Scotland. HUDSON. P. Aug.—Sept.

spiral'is.

O. Bulbs incorporated, oblong: stem somewhat leafy: flowers placed spirally, but pointing one way: lip of the nectary undivided, finely scalloped. LINN.

Dicks. h. s.—E. bot. 33—Curt.—Fl. dan. 387—Dod. 239. 2—Lob. obs. 89, 2. & ic. i. 186. 1—Park. 1354. 3—Gies. 42.*

Flowers white within. *Petals*, the outer glued together. *Lip* roundish, finely scalloped, the teeth fringe-like. LINN.—*Bulbs* 1 to 3, varying from oblong and half an inch to cylindrical and one and a half inch long, rough, with a few fibres. —*Stem* 6 to 9 inches high, smooth below, downy above, from the side of the root. *Root-leaves* in a tuft, oval-spear-shaped, very entire, smooth, bright green; *stem-leaves* 3 or 4, spear-shaped, tapering to a point, embracing the stem. *Spike* 2 to 4 inches long. *Floral-leaves* longer than the germen, oval-spear-shaped, tapering to a point. *Flowers* numerous, white. *Petals*, the 2 inner spear-shaped, expanding. *Lip* narrow at the base, widening downwards, at the end roundish and serrated. WOODWARD.—*Stem* slightly wreathed. *Spike-stalk* wreathed, downy. *Petals* 5, spear-shaped, nearly equal, upright, approaching, greenish white, smooth within, downy without, the 3 upper glued together, and appearing as one, the middlemost the largest. *Nectary* oblong-egg-shaped, at the base somewhat heart-shaped, and marked with a blunt tooth on each side, nearly doubled to, and involving the parts of fructification, slightly keeled underneath, at the end bluntish and finely scalloped, somewhat fleshy, glossy, glutinous, green, with a whitish edge, and towards the point frosted. *Stamen* 1, placed on the upper side of the style. *Filament* none, except a short tooth projecting from the inner edge of the style. *Anther* of 2 cells and 4 valves, egg-shaped, upright, growing to the inner edge of the posterior tooth of the style. *Style* somewhat club-shaped, hooked, projecting from the point of the germen, concave above where it receives the mass of pollen, which sometimes remains in it even after the flower is out of blossom; margin upright, with 5 teeth beneath obliquely lopped. *Summit* flat, somewhat egg-shaped, green, glutinous, cloven at the point. ST.—The flowers, as Linnæus says, do really point in one direction, from one line; but this line having a spiral twist, they appear to point in different directions.

Triple Twayblade, or *Ladies-traces*. Dry sandy and chalky pastures, and moist meadows. RAY.—[Dry barren clayey pastures, and on a boggy common. WOODWARD.—In a croft near Whitehall, on the road from Truro to Redruth, Cornwall. Mr. WATT.—Under the rocks at Pinney Cliffs, near Lyme. Mr. KNAPPE.—In good soil, on the sides of sunny banks in the limestone pastures about Newton Cartmel. Mr. HALL.]—(Pastures about Voylas, Denbighshire. Mr. GRIFFITH.—Allerton, and in the woods at Ince, near Liverpool. Dr. BOSTOCK. E.)
P. Aug.—Oct.

O. Bulb fibrous: stem with 2 leaves: leaves egg-shaped: ova'ta. lip of the nectary cloven.

Hall. 37. 1. at ii. p. 150—Curt. 177—E. bot. 1548—Gars. 425.
2—Dod. 242. 1—Lob. obs. 161. 3. & iv. i. 302. 2—Park. 504.
1—Fuchs. 566—J. B. iii. 533. 2—Fl. dan. 137—Matth. 1225
Lonic. i. 241. 2—Ger. 326—Pet. 70. 10.

Leaves opposite. *Lip* strap-shaped, cloven half way down. LINN.—*Flowers* numerous, yellowish green. *Floral-leaves* not half the length of the germens, oval, taper-pointed. *Petals* forming a kind of hood, the 3 outer spear-shaped, the 2 inner strap-shaped, somewhat tinged with purple. *Lip* as long as the germen; nearly strap-shaped, rolled back at the edges; segments somewhat apart, with mostly a short pointed intermediate lobe. *Anthers* not elastic. WOODWARD.—*Calyx*, leaves 3, apparently extensions of the blunt angles of the germen, which in the ripe capsule appear in the form of narrow valves. *Petals* 3, the upper strap-shaped, greenish, tinged with purplish brown at the edge, the lowermost thrice as long; all apparently extensions of the sides of the germen, which in the ripe capsule appear in the form of broad valves. *Nectary* none. *Stamen* 1. *Anther* sitting, inserted by its point into the point of the summit, cloven, evidently 1, and not 2 as in *Orchis*, appearing like a tongue between the summit and the upper segment of the blossom, soon falling off. *Case of the stamen* on the under side of the upper segment of the blossom, fleshy, folded into 2 cells, which inclose the 2 lobes of the anther in its earlier state, and when those are ripe and bursting from their inclosures have disengaged themselves, closing again, and pressing upon the anther, remain after it has fallen off, and turning brown, might easily be mistaken for its anther. *Capsule* not twisted, just before shedding its seed inversely egg-shaped, many times larger than the germen; 6-cornered, 3 of the corners prominent but blunt, the 3 alternate ones keeled; of 1 cell, and 6 valves; 3 strap-shaped, forming the blunt corners, and 3 placed alternately, spear-oblong, thrice as broad, forming the acute corners of the

capsule: opening widely at the sutures, but connected above and below, *letting out while yet green the seeds at the suture*; in this state nearly globular, yellowish green, resembling in figure an antique helmet with a vizor. *Seeds* very numerous, adhering to the inside of the broader valves, in 2 lines along the back of the keeled angle: oblong, tapering each way, white, membranaceous, reticulated, each containing a single globular kernel rather smaller than the diameter of the case which contains it, opaque and of a greenish white. *ST.*—*Flowers* with a fragrant and musky scent. *MR. DICKENSON.*—*Plant* about 2 inches high. *Spike* 4 inches long, cylindrical; little fruitstalks longer than the germs or the floral leaves.

Common Twayblade. Woods and moist shady thickets: not unfrequent in meadows and pastures. [Beechwood, on Lansdown. *MR. SWAYNE.*—Hurcot wood. July 20, 1789. *ST.*]—(About Crosby, near Liverpool. *DR. BOSTOCK.*—(In meadows near Ditton on the Clea Hills, Shropshire. *E.*)

P. May—June.

Var. 2. *Leaves* acute. *MR. WOODWARD.*—*J. B.* iii. 534. Much smaller and greener than the preceding; *Leaves* sometimes three. (*Park. Ray.*) *Leaves* triangular or heart-shaped. *Ray,* *Leaves* oval, pointed.

(*Mr. Borrer*, in the *Botanist's Guide*, mentions having found in Sussex a monstrous variety, in which two, and in some flowers three of the petals have assumed the form and size of the nectary lip, and which has flowered in the same manner since its removal to a garden. *E.*)

Bifolium palustre, *Park*, 505—*R. Syn.* 385. *WOODWARD.*—Low wet grounds between Hatfield and St. Alban's, and divers places in Romney Marsh. *PARK.*—Boggy and fenny grounds near Gamlingay, Cambridgeshire. Hurst Hill and Tunbridge Wells. *R. Syn.*—[Marshy ground. *MR. WOODWARD.*—Hallinghall wood, near Loughborough. Buddon wood. Stocking wood, near Leicester. *PULTENEY.*]

cordata.

O. Bulb fibrous: stem with 2 leaves: leaves heart-shaped.

Dicks. h. s.—*E. bot.* 358—*Hall.* 22. 4; *Ophrys*, &c. at ii. 132—*J. B.* iii. 534. 2—*Pet.* 70. 11—*H. or.* xii. 11, row 1. 4—*Gunn.* ii. 3. 6.

Leaves opposite. *Lip* cloven, with a tooth on each side of the base, which is not the case in *O. ovata*. *LINN.*—*Root*, fibres not bundled. *Stem* 6 to 9 inches high. *Spike* short, with few flowers. *Floral-leaves* minute, oval spear-shaped, as long as the fruit-stalks. *Petals* expanding, green, the 3 outer oval-spear-shaped, the 2 inner spear-shaped. *Lip* strap-shaped, green, purplish at the base, divided below the middle; segment awl-shaped. *WOODWARD.*

Least Twayblade. Heart-leaved Twayblade. Moist mountainous heaths, especially in boggy ground, in Yorkshire, Lancashire and Westmoreland. [On Ingleborough, and on the high moor between Sheffield and Chatsworth. Dr. SMITH.] (Race-ground, near Scarborough. Mr. TRAVIS.—On Snayfield, Isle of Man. Rev. H. DAVIES.—Gold Hill near Muggleswick, and among the ling in Charmberry, Eggleston, Durham. Rev. J. HARRIMAN. *Bot. Guide.* E.) P. June—July.

(2) *Bulbs undivided.*

O. Bulb roundish: stalk naked, 3-cornered: lip of the nectary egg-shaped. *Loese'llii.*

Dicks. h. s.—Fl. dan. 877—*E. bot.* 47—*Lob. adv. alt.* 506. 1—*J. B.* ii. 770. 1—*Pluk.* 247. 2—*Pet.* 70. 12.

Root a bulb, ascending, with a branch. *Leaves* spear-shaped, 2, nearly as long as the stalk. *Stalk* 3-square above. *Flowers* 5 to 8, and not more. *Petals* narrow, bent back. *Lip* egg-shaped, large with respect to the rest. LINN.—*Stalk* 6 inches high, upright, with from 3 to 5 angles, smooth. *Root-leaves* very entire, bare. *Flowers* in a bunch, yellowish green, 4 to 6 or 7. *Petals*, the 3 outer strap-shaped, bent back, green, the 2 inner on the sides thread-shaped, somewhat purplish. *Lip* very entire, somewhat purplish. *Capsule* upright, oblong, angular. *Seeds* numerous, small. HUDSON.

Dwarf Twayblade. O. lilifolia Loesclii. HUDSON.—But the *O. lilifolia* is not a native of Europe. WOODWARD—Since confirmed by Dr. Smith, from a comparison with the herbarium of LINNÆUS. [St. Faith's-Newton bogs near Norwich; a single specimen given to Mr. Lightfoot. Mr. PITCHFORD.—None since found either in Norfolk or Suffolk; but in 1785, I saw a specimen from Mr. Sole, which was found on Hinton Moor. Mr. WOODWARD; and on other Moors near Cambridge by Mr. Relhan. See his *Fl. Cantab.*] (Boggy grounds about Ham Ponds near Eastry, Kent. DILLWYN.—Bogs near Tuddenham, Suffolk. Sir T. G. CULLUM. *Bot. Guide.* E.) P. June—July.

O. Bulb globular: stalk naked: lip of the nectary 3-cleft; monor'chis. cross-shaped.

Dicks. h. s.—Seguier. ii. 16. 15—*J. B.* ii. 768. 3—*Fl. dan.* 102—*Hall.* 22. 3; *Monorchis*, at ii. p. 132—*Mich.* 26. 3—*Gmel.* i. 4. 1—*Rupp.* 2. 5, *Monorchis*, at p. 238.

Root solitary. *Lip*, the lateral lobes transverse. *Flowers* yellowish, green, sweet, LINN.—*Stem* about 6 inches high,

cylindrical, smooth. *Root-leaves* 2 or 3, sheathing the stem, spear-shaped, smooth, shining, yellowish green; *stem-leaves* 1 or 2, awl-shaped, sitting. *Spike* one or one and a half inch long, with numerous flowers. *Flowers* small, greenish yellow, with a faint musky scent. *Floral-leaves* spear-shaped, taper-pointed, the lower equal to or somewhat longer than the germen, the upper somewhat shorter. *Germen* oval, sitting, tapering above into a sort of fruit-stalk, whence the flower hangs obliquely nodding. *Petals*, the 3 outer oval spear-shaped, somewhat approaching, the 2 inner broad at the base, scolloped, and suddenly narrowing into strap-spear-shaped. *Lip* deeply cloven into 3; segments spear-shaped. **WOODWARD.**

Yellow Orchis. *Musk Orchis*, or *Twayblade*. Barren pastures in a calcareous soil. [Chalk pit at Marham, near Swaffham, Norfolk. Mr. WOODWARD.—Near Snettisham. Mr. CROWE.] (In a chalk pit by the road side at Gerard's Cross, Bucks. BLACKSTONE.—Chalk pits near Gogmagog Hills, Cambridgeshire. RELIEN.—In a chalk pit near Sicklesmere, and at Little Saxham, Suffolk, Sir T. G. CULLUM.—In the great chalk pit on Epsom Downs, near Ashstead Park, Surrey. Mr. T. F. FORSTER, jun. *Bot. Guide*. E.) P. July.

anthorpo-
phora.

O. Bulbs roundish: stalk leafy: lip of the nectary strap-shaped, 3-cleft; the middle segment long; cloven.

Curt.—E. bot. 29—*Col. ecphr.* i. 320. 1—*Pet.* 68. 8—*Hall.* 23, at ii. 133—*Flowers only*, *Vaill.* 31, 19 and 20.

Bulbs roundish. *Stem* about 1 foot high, firm smooth, cylindrical at the base, somewhat angular upwards. *Root-leaves* 4 or 5, expanding, spear-shaped, varying in breadth; *stem-leaves* 1 or 2 just above the former, closely embracing the stem. *Spike* long, loose. *Floral-leaves* membranaceous, spear-shaped, finely tapering at the end, half as long as the germen. *Petals*, the 3 outer oval-spear-shaped, greenish, with purple lines and edges; the 2 inner strap-shaped. *Lip* long, the 2 outer segments strap-shaped, slender; the middlemost as long again, cloven half way down into 2 pointed segments, rather wide apart. **WOODWARD.**

Man Twayblade. *Green Man Ophrys*. Chalky meadows and pastures, near Northfleet, Greenhithe, and other places in Kent. [Ashwelthorpe, near Norwich. Mr. CROWE.]—(Forncet, Norfolk. Mr. Fox. *Fl. Brit.*—Bank westward of Crabbe, and in Botton church-yard, Kent. Mr. DILLWYN, and JACOB.—In a dry pit at the end of Mr. Wright's garden at Mendham, Norfolk. Rev. H. TILNEY.—Blakenham, near Ipswich. Rev. W. KIRBEY.—Chalk pit near Cheam, Surrey. Mr. T. F. FORSTER, jun. in *Bot. Guide*. E.) P. June.

O. Bulbs roundish; stem leafy; lip of the nectary convex, musciferous cloth-like, with 3 divisions, the middle segment cloven.

Hall. 24. at ii. 135—Gunn. ii. 5. 1—E. bot. 64—Jacq. ic. 1—Walc-Pet. 68. 10—Dod. 238 3—Lob. obs. 91. 1—Park. 1352. 12—Lob. obs. 90. 4, & ic. i. 181—Ger. em. 213. 6—Park. 1352. 10—Flowers only, Vaill. 31, 17 and 18.

Petals, the 3 outer egg-shaped, entire, expanding; the 2 inner strap-shaped, blackish purple. *Lip* oblong, blackish purple above, with a blue band below the upper lobes, underneath. *Huds.*—*Petals*, the 2 inner thread-shaped, blackish purple, resembling the feelers of an insect. *RELHAN.* *Stem* 9 to 15 inches high, firm, above naked, yellowish green, and nearly cylindrical. *Leaves* 3 or 4, spear-shaped, pale green, shining, with numerous longitudinal veins, the intermediate space covered with a thin, somewhat puckered, pellucid skin, giving a silvery hue. *Floral-leaves* strap-spear-shaped, keeled, much longer than the germen, pale yellowish green. *Flowers* thinly scattered, 4 to 15, having much more the appearance of a fly than those of *O. apifera* of a bee.—*Petals*, the 2 inner expanding, deep reddish brown, fringed with short hairs, cloven at the base, fixed to the upper lip of the nectary. *Nectary* the upper lip hooded, covering the stamens; the lower with 3 lobes, the side lobes strap-shaped, short, entire; the middlemost somewhat oval, bent back at the edges, divided by a deep angular notch into 2 lobes, reddish brown, with a velvety down, with a bluish naked spot in the centre. *WOODWARD.*—The blue spot upon the base of the middle segment of the nectary lip, contributes much to its resemblance to a fly.

Fly Orchis, or *Twayblade*. *O. insectifera myodes*. LINN.—Meadows and pastures in a calcareous soil. Cambridgeshire, Suffolk, Essex, Yorkshire and Anglesea, Chalk Hills near Northfleet, and near Croydon and Wrotham. [Bath Hills near Bungay, and Earsham Wood, Suffolk. Mr. WOODWARD.—In Plumpton Woods near Ulverston. Mr. ATKINSON. On the high ground at the back of the old well-house, St. Vincent's rocks, Bristol.] (Chalky pastures near Shefford, Bedfordshire; Mr. FOWLER. On a detached rock on the south branch of Castle Eden Dean, Durham, and (together with the *Cypripedium*,) in the North branch; also above the Gunner's Pool. Mr. WINCH. Sunny Bank at the side of Coombe Wood, by Dover. DILLWYN. In Plumpton woods near Ulverstone, Lancashire. Mr. WOODWARD. In the walks of the Moat Garden at Fincham, Norfolk. Rev. R. FORBY. Barrowfield wood near Kendal. ROBSON.—On Hampton Down, under the cliffs, Somersetshire. *Bot. Guide*. E. P. May—June.

Mr. Ray mentions a larger sort, found in a pasture near Pestingsford, Suffolk, and Welling, Hertfordshire; Greenhithe, and in the old chalk pit near the white house by N. Gray. *R. Syn.* 379. But from the fig. of *J. B.* ii. 768, to which he refers, it will probably prove to be a different species. Dr. Smith thinks it scarcely differs sufficiently to form a permanent variety. It is, however, the *O. muscifera* β of *Fl. Brit.*

apifera.

O. Bulbs roundish: stem leafy: lip of the nectary with 5 lobes, the lobes bent in underneath. Huds. shorter than the petals. **WOODWARD.**

E. bot. 383.—*Curt.-Walc.-J. B.* ii. 767. 1—*Fuchs.* 560—*J. B.* ii. 766. 2—*Trag.* 783—*Vaill.* 30. 9—*Dod* 238. 1—*Lob. obs.* 91. 2; & *ic.* vi. 180. 1—*Ger. em.* 212. 3—*Park.* 1351. 5—*Ger.* 166. 13—*Pet.* 69. 2—*Matth.* 880. 2—*Flowers only, Vaill.* 30. 9.

Stem shorter than that of *O. muscifera*. *Leaves* and *floral-leaves* broader and shorter. *Floral-leaves* longer than the germen. *Petals* the 3 *outer* sometimes bent back, spear-shaped, as long as the germen, the 2 *inner* expanding, purplish on the inside, green without. *Nectary*, the *upper lip* lengthened out into a long hooked kind of proboscis, deep green, with cases for the stamens beneath; *lower lip* hairy, mottled with brownish purple and yellow; the 2 *upper and outer lobes* near the base, short, spear-shapen, at first bent upwards, afterwards bent back; the *middle lobe* very large, marked with 2 round yellow spots, the *side lobes* short, angular, the middlemost long, tapering to a point; point greenish yellow, bent back. **WOODWARD.**—*Lower lip* rusty brown, very much resembling a small humble-bee inversely egg-shaped; the *side lobes* bent down, woolly, the edges bent in, the upper angles loose and upright, resembling the wings of a bee. *Stamens* yellow, inserted into the upper edge of the summit, bursting when the flower is expanded from the membranaceous cases of the upper lip, and bending down on the surface of the summit, continuing fixed to its edge. *Anthers* club-shaped, compound, resembling those of the *Orchis*. *Germen* not wreathed. It agrees much more nearly to *Orchis* in its structure, and confirms the propriety of Haller's generic characters. **St.**

Ophrys insectifera. **LINN**—*Bee Orchis*, or *Twayblade*. *Bee-flower*. Meadows and pastures. South side of Great Comberton, towards Wooller's-hill, frequent. **NASH.**—[Tedestone near Whitbourne, Worcestershire. **Mr. BALLARD.**—Area of Carisbrook Castle, Isle of Wight. **St.**—About Earsham. **Mr. WOODWARD**, and Mulbarton. **Mr. CROWE.**—On the high ground behind the old Well House, St. Vincent's Rocks, Bristol, near

where the *O. muscifera* grows, but less plentiful.] (On the chalk hill, near Hedson Wharf, and in a chalk pit near Bulstrode, Bucks. Mr. GOTOBED.—Madingley Wood, Cambridgeshire. RELHAN.—In a field opposite the old Bath, Matlock. PILKINGTON.—Rooker's Gill, near Fulwell. Mr. WEIGHELL.—Near Ryhope turnpike gate. Durham, REV. J. FENWICK.—Chalk pits at Purfleet, Essex. Mr. T. F. FORSTER, JUN.—In Haley Wood pits near Dartford, and common about Dover. Mr. DILLWYN.—Benthal Edge, near Ludlow. Dr. EVANS.—Not uncommon about Yoxford, Bury, Bungay and Harleston, Suffolk; about Boxhill, near Dorking, in great abundance. Mr. J. WOODS, JUN.—Trenches at Old Sarum. Dr. MATON.—Near Hildenlay Stone Quarry. Mr. TEESDALE.—And lower banks, Rippon and Studley Woods, Yorkshire. Mr. BRUNTON.—In all the hilly pastures about North Stoke, Somersetshire. *Bot. Guide*. E.) P. June—July.

(A beautiful variety with a *white flower* is reported to have been found by Dr. PULTENEY at Bordean, Hampshire, by Miss Ulthoff, near Halesworth, Suffolk. *Bot. Guide*. E.)

O. Bulb roundish: stem leafy: lip of the nectary roundish, *aranifera*, entire, notched, convex. HUDS. longer than the petals. Mr. WOODWARD.

Curt-E. bot. 65—*Lob. ic.* i. 179. 2—*J. B.* ii. 767—*Ger. em.* 212. 3—*Park.* 1350. 4—*Pet.* 69. 3—*Flowers only Vaill.* 31. 15 and 16.

Petals, the 3 *outer* oblong, expanding, green; the 2 *inner* on the sides, strap-shaped, green, shorter. *Lip* large, coloured, silky; with a spot at the base, the spot with 2 lobes, shining, smooth; with a blunt tooth projecting on each side of the spot; concave underneath, blackish purple above, green at the edge, herbaceous underneath. HUDSON.—much resembling *O. apifera*. *Stem* and *leaves* shorter. *Floral-leaves* narrower. *Flowers* smaller. *Petals*, the 3 *outer* oval-spear-shaped, blunt, greenish, much shorter than the lip; the 2 *inner* strap-shaped, very short. *Lip* rolled in at the edges, not lobed, only slightly notched at the end, hairy, except the spot towards the base, dusky, with greenish margins, green underneath. Mr. WOODWARD.—It is from the breadth of the lip and its being marked with different shades of brown, that it derives its fancied resemblance to a spider.

Spider Ophrys. N. insectifera. ♀ LINN.—Haller supposes his *Orchis n.* 1266. β to be the *O. apifera*, and that in the more advanced state of its growth the middlemost segment turns back, and becomes this plant; but this segment is bent back in the *O. apifera*, even before the flower is fully expanded: not to mention that *O. aranifera* blossoms in May, and *O. apifera* usually not

till July. WOODWARD. (Dr. Smith found Haller's plant abundantly in Italy, and is convinced it is a different species not yet discovered in Britain. E.)

Chalky Meadows and pastures, as about Northfleet; and gravel pits, as one in the open field near Great Shelford, and near Bartlow, Cambridgeshire. In dry pastures about Branham near Tadcaster. [near Bury. Mr. WOODWARD] (On the Hills about Dover. DILLWYN.—In an old stone pit ground by Walcot, a mile from Barneck, Northamptonshire. Dr. BOWLES.—Westley Bottom, both Saxhams, Suffolk. Sir T. G. CULLUM.—Chalk pits near Leatherhead, Surrey. CURTIS. *Bot. Guide*. E.)

P. April—May.

MALAX'IS. *Nectary* 1 leaf, heart-shaped, concave, inclosing the stamens and pistils.

paludo'sa. M. Stalk 5-edged: leaves sheathing, battledore shaped.

E bot. 72—*Rose.* 2. 3—*Kniph.* 9.

Bulbs egg-shaped, bowed in, throwing out roots below, chering downwards as a chain, with a small branch between them. *Stalk* 5-cornered, naked for the greater part of its length. *Root-leaves* 3 or 4, spatula-shaped, alternate, rough towards the end, especially on the upper surface. *Bunch* with numerous flowers. *Flowers* green yellow. LINN.—*Leaves* 2 or 3 from the root, and near the base of the stem half an inch long. *Stem* 3 to 4 inches high. *Spike* half as long as the stem. *Flowers* scattered. *Floral-leaves* spear-shaped, shorter than the fruit-stalks. WOODWARD.

Marsh Twayblade. *Ophrys paludosa.* LINN.—[Near Norwich. Mr. PITCHFORD.—Felthorpe Heath, Norfolk. Mr. C. BRYANT and Mr. CROWE.—Cawston Heath near Norwich. Mr. CROWE.—Between Rusland Chapel and Thwaite Moss in Furness Fells. Mr. JACKSON.—Norton Bog, Cannock Wood, Staffordshire. Mr. BAGOT.] (Boggy ground in Coedy Tù Dù, near Llanberris, Carnarvonshire. Mr. GRIFFITH.—Gamlingay Bogs. RELHAN. and on Hinton Moor, Cambridgeshire. Dr. MANNINGHAM.—West of Middleton, Yorkshire. Mr. ROBSON. *Bot. Guide*. E.)

SERA'PIAS. *Bloss.* 6 petals, expanding; *Nectary* egg-shaped, bulging; *Lip* egg-shaped: *Caps.* beneath, 1-celled, 3-valved.

latifo'lia. S. Leaves egg-spear-shaped, embracing the stem: flowers nearly horizontal: lip pointed, entire, rather shorter than the petals.

E. bot. 269—*Fl. dan.* 811 *Gunn* ii. 5. 3 to 6—*Hall.* 40. 2. at ii. p. 154—*Flower only*, *Crantz.* vi. 1. 6.

f *Spike* many-flowered, long. *Fruit-stalk* long. *Flowers* and *fruit* pendant. *Nectary* without lines. LINN.—With a heart-shaped prominence at the base. HALLER.—*Leaves* and *floral-leaves* becoming gradually narrower as they ascend. *Spike* very long. *Germen* pear-shaped. WOODWARD.—*Root*, fibres thick, thread-shaped, hairy. *Stems* more or less of a brownish purple. *Leaves* all embracing the stem. *Spike* from 3 to 8 inches long. *Flowers* from 6 to 20, or more, much closer set than in the next species. *Cal.* leaves 3, brownish green, broad spear-shaped, keeled. *Petals*, the 2 lateral ones resembling the leaves of the calyx; purplish green. *Nectary*, the *upper lip* glandular, white, fleshy; the *lower* distended at the bottom into a nearly globular hollow; purple within, and of a brownish green without, towards the end flat, purplish, and somewhat scoloped. *Anthers* yellowish white, connected to their case by a milk-white globular substance. *Pistils* 2, white, fleshy, fixed on the glandular receptacle. *Capsule* inversely egg-shaped, bulging on the upper side, smooth, or nearly smooth.

Common Helleborine. Bastard Hellebore. Woods, groves, and hedges. [Common in the North Riding of Yorkshire, but I have, as yet, seen only one within 50 miles of Leeds. Mr. WOOD.—Matlock, Derbyshire, and northern counties, as Buckingham Wood, Cumberland, and in an elevated situation at the foot of Conzick Scar, four miles from Kendal, amongst loose stones and rubbish, not accessible without some danger. Mr. WOODWARD.—In the red rock plantation, Edgbaston Park, near Birmingham.] (Crosby Marsh, near Liverpool. Mr. SHEPHERD. Woods at Wygfair, the seat of John Lloyd, Esq. Denbighshire; in the wood near the house at Lleweny, close to the bridge that crosses the river Clwyd, Denbighshire; rocks near Daler Gôch mine works, Flintshire. Mr. GRIFFITH. E.) P. July—Aug.

Var. 2. HUDSON.—*Blossoms* blackish red. *Leaves* narrower, closer set. It flowers later. RAY.—*Leaves* variously oval-spear-shaped, much longer and narrower than in Var. 1. *Flowers* very dark coloured. Corresponding exactly with *Fl. dan.* 811. except that the *spike* is much longer. WOODWARD.

Sides of mountains near Malham, Yorkshire. RAY.—Woods in Westmoreland and Cumberland. Mr. WOODWARD. P. Aug.

S. *Leaves* spear-shaped, embracing the stem: flowers nearly horizontal: lip scoloped, blunt, longer than the petals. palus'tris.

E. bot. 270—Hall. 39. at ii. p. 154—*Fl. dan.* 267—*Pet.* 70. 8—*Clus.* i. 273. 1—*Dod.* 384—*Lob. obs.* 169; *ic. i.* & 312. 1—*Ger. em.* 442. 1—*Park.* 218. 4—*Pet.* 70. 5—*Flowers* only, *Crantz.* vi. 1. 5.

Flowers as large again as in the preceding species. *Nectary* adhering to the other petals; the hollow part marked with purple lines. HALLER.—The outer half of the *lip* so slightly attached as to be shaken off by a small motion, and is often blown off by the wind while the plant is growing. Mr. WOOD.—*Flowers* mostly from one side of the stem. *Lip* divided transversely almost through; the half next the receptacle boat-shaped, with purple ribs, at the bottom with a yellow line, spotted with orange; the outer half hanging down, roundish, with an angular bulging appendage at the base, in which, previous to the expansion of the flower, the anthers were inclosed. *Germen* long and narrow, which, in *S. latifolia*, is short and inversely egg-shaped; when fully grown elliptical. WOODWARD.—*Leaves* sometimes egg-spear-shaped, with 7 ribs. Mr. HOLLEFEAR.—and sometimes egg-oblong and blunt. *Fruit-stalk* downy, thread-shaped. *Germens* downy, slightly scored, long, tapering down to the fruit-stalks, and a little towards the point. ST.—*Spike* about 4 inches long, flowers from 6 to 12, much wider set than in the preceding species. *Fruit-stalk* and *germens* woolly; the latter uniform, not bulging on the upper side.

The trivial names *latifolia* (broad-leaved) and *longifolia* (long leaved) are ill applied to these plants, and instead of assisting, tend to perplex the investigator; but the different lengths of the *lip*, and the shape of the *germens* will always discriminate these 2 species; and should the woolliness of the fruit-stalk, the flower and the germens be constant in this last species, and always wanting in the first, as it is in the specimens now before me, their distinctions will be always obvious at first sight; as Dr. SMITH observes, the trivial name of *palustris*, (formerly used by several eminent botanists, and recently in Fl. Brit. the E. bot. &c.) is particularly appropriate: it is therefore now adopted in this work. E.)

Marsh Helleborine. S. palustris. E. bot. Fl. Brit, &c. *S. longifolia.* LINN. and the last four editions of the Arrangement of British Plants. Marshy and watery places. Bogs at Chiselhurst. RAY.—Dry chalky ground, as in the old chalk pits by the White House, between Eltham and North Cray. SHERRARD in *R. Syn.*—[Plentifully in one morassy spot of 2 or 3 acres, within a mile of Leeds, and hitherto I have observed it no where else. Mr. WOOD.—Swampy meadows Robinson's street, on the borders of Malvern Chase, Worcestershire. Mr. BALLARD.—Bogs in Norfolk, frequent. Mr. WOODWARD.—Knutsford Moor, Cheshire. Mr. AIKIN. (Crosby, near Liverpool. Dr. BOSTOCK. Near the House at Lleweny, Denbighshire; and in the woods leading from the house to the garden at Wygfair, Denbighshire, Mr. GRIFFITH. E.). P. July—Aug.

- S. Leaves sword-shaped, pointing from 2 opposite lines: ensifolia.
floral-leaves very minute: flowers upright: lip of
the nectary blunt, shorter than the petals.

E. bot. 494—*Fl. dan.* 506.

Root, fibres many, thickish. *Stem* sometimes more than a foot high, upright. *Root-leaves* long, narrow, pointed, resembling those of reeds; *stem-leaves* narrow. *Flowers* white, 8 or 10, in a loose spike. RAY.—*Stem* a foot high, sometimes slightly twisted. *Stem-leaves*, the longest 6 inches long, half an inch wide, bright green, smooth, shining, with 5 or 7 principal ribs, the lower embracing the stem, the upper sitting, alternate, and pointing from 2 opposite lines. *Seed-vessels* upright, elliptical, but from the projecting ribs appearing 3-cornered, longer and narrower than those of *S. longifolia*. WOODWARD.

S. longifolia, δ HUDS.—*Sword-leaved Helleborine*. Under Brackenbrow or Brakenuray, opposite Helk's Wood. In the end of a wood where *Cypripedium Calceolus* grows, one mile from Ingledon, Yorkshire. *R. Syn.*—[Lord Lonsdale's woods, at Lowther, Westmoreland. Mr. WOODWARD.—Abberley Hill, Worcestershire. Mr. BOURNE.]—(Alderbury Common, Wiltshire, Dr. MATON. E.)

- S. Leaves egg-spear-shaped: floral-leaves as long as the grandiflora.
capsule: flowers upright: lip of the nectary blunt,
shorter than the petals.

Dicks. h. s.—Hall. 41. at ii. p. 155—*E. bot.* 271—*Ger.* 358.
2—*Pet.* 70. 7—*H. ox.* xii. 11. 12.—*Flower only*, Crantz. vi.
1. 4.

Flowers white, large, and, as is the fruit also, upright. *Lip of the nectary* marked with prominent lines. HALL.—Near a foot high. *Spike* short; flowers few.

White Helleborine. Serapias lancifolia. GMELIN.—Woods and thickets, near Stoken Church, Oxfordshire; about Marlow, and in Bedford and Buckinghamshires. [Mr. Knight's walks, Wolverley, Worcestershire. ST.—Woods near Uley. Mr. BAKER.] (In woods of Sir W. East, Bart, at Hall Place, near Harleyford, Berkshire. Dr. SMITH.—Newton Wood, Derbyshire. Mr. COKE. Boxhill, and among the beeches on Ryegate Hill, Surry. Mr. BORRER.—Winterslow Woods, Wiltshire, Dr. MATON.—In Claverton Wood, also at Hinton Abbey, Somersetshire. *Bot. Guide.* E.) P. May—June.

- S. Leaves sword-shaped: flowers upright: lip of the nectary acute, ru'bra.

DIANDRIA. MONOGYNIA. *Cypripedium*.

E. bot. 437—*Fl. dan.* 345—*Hall.* 42. ii. at p. 157—*Clus.* i. 273. 2—*Ger. em.* 442—*Park.* 218. 8—*J. B.* iii. 517. 1—*H. ox.* xii. 11. 5—*Ger.* 358. 3.

Flowers purplish red, 5 or 6 in a loose spike.

Thickets on the sides of mountains about Clapham and Ingleton, Yorkshire.—(Gloucestershire. *Rev. Mr. BAKER.*—On a steep stony bank, sloping to the South, on Hampton Common, in that County, *Mrs. SMITH. Fl. Brit.*—I have a specimen marked Ripton, Huntingdonshire, exactly corresponding with Dr. Smith's description. *Mr. WOODWARD. in Bot. Guide. E.*)

P. June.

CYPRIPEDIIUM. *Nectary* bellying, inflated, hollow.

calceolus.

C. Roots fibrous: leaves egg-spear-shaped, those on the stem alternate.

Hall. 43. at ii. p. 157—*Gmel.* i. 1—*Mill.* 242—*Clus.* i. 272—*Dod.* 180. 2—*Lob. ic.* i. 312. 2—*Ger. em.* 443. 2—*H. ox.* xii. 11, 14—*J. B.* iii. 518—*Dod.* 180. 1—*Ger. em.* 443. 1—*Park.* 217. 3—*Ger.* 359—*Pet.* 70. 4.

Petals 4, disposed crosswise, purple, slightly downy, with parallel veins; the upper broader, the 2 lateral ones narrower, the 4th the shortest, hanging over the opening of the lip. *Lip* curved, rounded at the bottom, the edges contracted, resembling a wooden shoe, pale yellow, marked within with deep orange hairy lines. *Capsule* upright, about an inch long, somewhat prism-shaped, with 3 flat sides, and 3 ribbed angles. *WOODWARD.*

Ladies-slipper. Woods and thickets, but rather rare. Woods in Lancashire; and Helk's Wood by Ingleborough, Yorkshire. *RAY.*—Woods about Clapham and Ingleton, Yorkshire. *HUDSON.*—Woods and hilly pastures in the neighbourhood of Kilnsay, Yorkshire. *CURT.*—Woods about Kilsey Crag, Wharfedale, Yorkshire. *Mr. WOOD.*—I searched for it in vain in Helk's Wood, a gardener of Ingleton having eradicated every plant for sale. *Mr. WOODWARD.* (In the County of Durham. *Rev. — RUDSTON. Fl. Brit.*—Warmshade, near Keswick. *Mr. HUTTON.*—The North branch of Castle Eden Dean, Durham. *Mr. ROBINSON.*—Reported in a Wood near Stroud, Gloucestershire.—Borough Hall Park, Lancashire. *MARTYN. Bot. Guide. E.*)

P. July.

LEMNA. Male. *Cal.* 1 leaf. *Bloss.* none.

Fem. *Cal.* 1 leaf: *Bloss.* none: *Style* 1,

Caps. 1 or 2-celled; 1 or 2 seeded.

L. Leaves on leaf-stalks, spear-shaped, proliferous.

trisul'ca.

E. bot. 926—*Mich.* 11. 5—*J. B.* iii. 786. 1—*Lob. ic.* ii. 36.
1—*Ger. em.* 830. 2—*Park.* 1216. 9—*Ger.* 681. 2.

(A pale green, pellucid, smooth herb, floating in fresh water, near or upon the surface, the *flowers* spring from a lateral chink; whose margin forms the *calyx*. The *male flowers* have 2 ascending white smooth *stamens*, each with a 2-lobed yellow *anther*. In some an ovate superior *germen* stands between the *stamens*, bearing a simple *style*, with a cloven *stigma*. *E. bot.* Few botanists have seen the fructification of this singular plant, either at home or abroad; in the month of June, near Yarmouth, Mr. D. TURNER was so fortunate as to discover it in perfection. *E.*)

Stems flattened and proliferous; crossing each other, thus resembling in its mode of growth the *Cactus Opuntia*, or *Indian Fig*. LINN.—*Leaf-stalks* issuing from the edge of another leaf, from a fissure parallel to the sides of the leaf.—*Capsule* egg-shaped, pointed, sitting on the upper surface of the leaf; much resembling those of the *Riccia fluitans*. Mr. EVANS, March 5, 1797.

Ivy-leaved Duck-meat. Ditches and stagnant waters.

A. June—Sept

L. Leaves sitting, flattish on both sides: roots solitary.

mi'nor.

E. bot. 1095—*Ray* 4. 1. at p. 150—*Mich.* 11. 3, *Lenticularia*—*Vaill.* 20. 3—*Blackw.* 380—*Gars.* 336—*Trag.* 690—*Dod.* 587. 1
Lob. obs. 648. 1; & *ic.* ii. 249. 1—*Ger. em.* 829. 1—*Park.* 1262. 1—*Ger.* 680—*Matth.* 1115—*J. B.* iii. 773. 2.

Flowers every year during the dog days. LINN.

Least Duck-meat. Greeds. Pools.

A. June—Sept.*

L. Leaves sitting, hemispherical underneath: roots solitary.

gib'ba.

E. bot. 1233—*Mich.* 11. 1. 2. 3; *Lenticula*.—*J. B.* iii. 773. 3.

Capsule with 2 cells, containing 2 seeds, somewhat compressed, and a little depressed in the middle, more globular when fuller advanced. WIGGERS. (*Seeds* 4 to 6. MICHELIS. *E.*) Differs from the *L. minor* in having the leaves inversely egg-shaped, narrowest where they are joined together, the upper surface slightly convex and generally tinged with purple; the under surface very convex, white, of a reticulated spongy appearance, and filled with

* (Mr. TURNER states in the Botanist's Guide, that this and the preceding species flower regularly every year in June, in marshes at Bradwell in Suffolk, though in general found barren. *E.*)

water, something resembling the internal structure of *Scirpus lacustris*, but not so regular. Mr. WOODWARD.—*Roots* thread-shaped, from the centre of the under side of the leaf. *Leaves* 3, 4, or 5 together, one growing out of the edge of the other, oval, convex also on the upper side, the under side porous, resembling pith.—Mr. GOUGH observes, that being intended to grow in ponds which fail in dry seasons, it may be recovered by moisture after being apparently dead. Some which he exposed for ten hours to the sun in July, revived when placed in water.

Gibbous Duckmeat. *L. minor gibba* β HUDSON.—Ditches and ponds.—(Ditches adjoining Rhyd Marsh, near Prestatyn, Flintshire. Mr. GRIFFITH. E.) [Lower Bishop's pool, Northwick, near Worcester, and in a pool near the East side of Malvern Chase, Worcestershire. Sept. 8, 1776. ST.] (Found in fructification at Lewes, in Sussex. by Mr. BORRER. E. bot. E.) A. July—Aug.

polyrhiza. L. Leaves sitting: roots crowded.

Ray 4. 2. at p. 150.—Vaill. 20. 2—Mich. 11. 1, *Lenticularia*.

Floats on the surface of the water on the appearance of the swallows, and sinks under water when they disappear with us. LINN.—(This plant is twice or thrice as large as the preceding species. E.) *Leaves* green above, purple underneath. It is so difficult to detect any of the species in flower, that some very able and experienced botanists have concluded that the Genus should be removed to the Cryptogamia Class; but I have examined some of them in a flowering state, and can bear witness to the accuracy of Michelis's figures.

Greater Duck-meat. Ditches. A. May—Sept.
Ducks and geese are fond of all the species.

SA'LIX. Catkin, each scale containing 1 flower.
Bloss. none.

Male, A nectariferous gland at the bottom of the flower.

Female. *Style* cloven: *Caps.* 1 cell; 2-valves: *Seeds* downy.

SYNOPSIS OF THE SPECIES.

(1) *Leaves* serrated, smooth or nearly so.

(1. *S. purpurea*. Lying down; stamen one, leaves inversely egg-spear-shaped, toothed, smooth; stigmas very short, egg-shaped, nearly sitting.

2. *S. Hé'lix*. Leaves strap-spear-shaped, smooth; upper leaves oblique; flowers with one stamen; style elongated, thread-shaped; summits strap-shaped.
3. *S. Lambertia'na*. Erect; stamen one; leaves egg-spear-shaped, sharp pointed; serrated, smooth; leaf-scales none; stigmas very short, egg-shaped, notched.
4. *S. Forbia'na*. Stamen one; leaves with small leaf-scales, spear-shaped, sharp-pointed, finely toothed, smooth, glaucous beneath; stigmas strap-shaped.
5. *S. ru'bra*. Leaves strap-spear-shaped, acute; minutely toothed, green on both sides.
6. *S. Crowe'na*. Monadelphous; leaves elliptical, slightly serrated, quite smooth, glaucous beneath.
7. *S. trian'dra*. Leaves oblong-spear-shaped; flowers with three stamens, sometimes with only two; germens stalked.
8. *S. lanceola'ta*. Stamens 3; leaves spear-shaped, tapering towards each end, serrated, smooth; foot-stalks decurrent; germen on a stalk.
9. *S. amygdali'na*. Leaves spear-shaped, on leaf-stalks; stipulas irregularly 4-sided; (flowers with 3 stamens. *Fl. Brit.*)
10. *S. Russellia'na*. Leaves spear-shaped, sharp-pointed, serrated, very smooth; germens on foot-stalks, awl-shaped, smooth.
11. *S. deci'piens*. Leaves spear-shaped, serrated, very smooth; foot-stalks somewhat glandular; germen tapering, stalked; floral-leaves, dilated, and bluntish; branches smooth and highly polished.
12. *S. pentan'dra*. Leaves egg-shaped, acute; flowers with 5 stamens; germens smooth, nearly sitting.
13. *S. ni'gricans*. Leaves elliptic, spear-shaped, scalloped, smooth, glaucous beneath; germens on pedicles, spear-shaped, pointed, silky.
14. *S. bi'color*. Leaves elliptical, acute, waved and slightly serrated, nearly smooth, glaucous beneath; germens stalked, spear-shaped, silky.

15. *S. petiola'ris*. Leaves spear-shaped, serrated, smooth, glaucous beneath; germen stalked, egg-shaped, silky; stigma sitting, cloven.
16. *S. phylicifo'lia*. Leaves elliptic-lanceolate, with many serratures, smooth, glaucous beneath; stipulas somewhat lunate, glandular on the inside; germen stalked, silky; style elongated.
17. *S. arbus'cula*. Leaves somewhat serrated, smooth, semi-transparent, glaucous underneath; stem rather woody; catkins egg-shaped, erect.
18. *S. vitelli'na*. Leaves egg-spear-shaped, acute, smooth above; serratures like gristle; leaf-scales small and deciduous; stigmas notched.
19. *S. fra'gilis*. Leaves egg-spear-shaped; leaf-stalks toothed with glands; nectary of the male flower double.
20. *S. tenuifo'lia*. Leaves elliptical, acute, serrated, smoothish, glaucous beneath; stipulas small or none; capsules very smooth.
21. *S. myrsini'tes*. Leaves egg-shaped, serrated, smooth, veiny; capsules awl-shaped, downy; young branches hairy.
22. *S. prunifo'lia*. Leaves egg-shaped, serrated, naked, smooth above, glaucous beneath; branches rather downy; capsules egg-shaped, silky.
23. *S. venulo'sa*. Leaves egg-shaped, serrated, naked; reticulated with prominent veins above, rather glaucous beneath; capsules elliptical, silky.
24. *S. carina'ta*. Leaves egg-shaped, finely toothed, smooth, minutely veined; folded so as to form a keel; capsules egg-shaped, downy.
25. *S. Dicksonia'na*. Leaves elliptical, acute, slightly toothed, smooth; young branches very smooth; catkins egg-shaped, short, erect; germen silky.
26. *S. herba'cea*. Leaves circular, serrated, very smooth, reticularly-veined, shining on both sides; capsules smooth.

(2) *Leaves perfectly entire, smooth or nearly so.*

27. *S. reticuláta*. Leaves egg-shaped, blunt, very entire, smooth, reticularly veined, glaucous beneath; capsules hairy.

(3) *Leaves hairy or woolly.*

28. *S. arenária*. Leaves nearly entire, egg-shaped, acute, reticulated and somewhat downy above, very woolly and veiny beneath.
29. *S. glau'ca*. Leaves nearly entire, elliptic-lanceolate, even and nearly smooth above, woolly beneath; foot-stalks decurrent.
30. *S. argente'a*. Leaves entire, elliptical, somewhat revolute, with a recurved point, rather downy above, silky and shining beneath, as well as the branches.
31. *S. prostráta*. Leaves elliptical, acute, convex, rarely toothed, glaucous, rugged and silky beneath; stem prostrate.
32. *S. fus'ca*. Leaves elliptic-oblong, acute, straight, flat, with a few glandular teeth, glaucous and silky beneath; foot-stalks slender; stem erect, much branched; stipulas none.
33. *S. parvifo'lia*. Leaves elliptical, nearly entire, with recurved points, glaucous and silky beneath; stem decumbent; stipulas egg-shaped, entire.
34. *S. re'pens*. Leaves egg-oblong, smooth above, silky underneath, very entire; stem declining.
35. *S. rosmarinifo'lia*. Erect; leaves spear-strap-shaped stiff and straight, nearly sitting, cottony underneath, entire; stipulas erect, flat.
36. *S. cine'rea*. Leaves slightly serrated, inversely-egg-spear-shaped, underneath reticulated with veins, glaucous, downy; stipulas half-heart-shaped, serrated.
37. *S. auri'ta*. Leaves reticularly veined, woolly on both sides, inversely-egg-shaped, furnished with appendages.

38. *S. aquatica*. Leaves slightly serrated, oblong-egg-shaped, flat, somewhat woolly underneath; stipulas rounded, toothed.
39. *S. oleifolia*. Leaves inversely-egg-spear-shaped, flat, minutely indented, acute, underneath glaucous and hairy; leaf-scales small, notched.
40. *S. cotinifolia*. Leaves elliptical, almost circular, slightly toothed, downy, and marked with rectangular veins beneath; stigmas cloven.
41. *S. landta*. Leaves woolly on both sides, roundish, acute.
42. *S. caprea*. Leaves egg-shaped, wrinkled, cottony underneath, waved, toothed towards the end; capsules swelling.
43. *S. acuminata*. Leaves egg-oblong, cottony underneath; upper ones entire, lower ones scalloped; stipulas kidney-shaped; capsules egg-awl-shaped.
44. *S. stipularis*. Leaves spear-shaped, pointed, bluntly scalloped, underneath downy; stipulas half-heart-shaped, very large; nectary cylindrical.
45. *S. mollissima*. Leaves spear-shaped, pointed, obscurely scalloped, whitish and silky beneath; leaf-scales crescent-shaped, minute; stigmas deeply divided.
46. *S. viminalis*. Leaves spear-strap-shaped, very long, acute, silky underneath; branches rod-like; style elongated.
47. *S. alba*. Leaves spear-shaped, tapering to a point, serrated, downy on both sides, the lowermost serratures glandular; stigmas cloven.
48. *S. hirta*. Leaves elliptic-heart-shaped, pointed, finely notched, downy on both sides; leaf-scales half-heart-shaped, flat, toothed, nearly smooth; branches hairy. E.)

(1) *Leaves smooth, serrated.*

1. *S.* Lying down: stamen one: leaves inversely-egg-spear-shaped, toothed, smooth: stigmas very short, egg-shaped, nearly sitting. *purpurea*.

E. bot. 1388.

A shrub three or four feet high. It differs from *S. Helix* in its spreading, decumbent habit, never growing up into a tree; the rich purple of its *branches*, and the somewhat deeper hue of its *leaves*, and especially by having much more small and slender *catkins*, a more elliptical *germen*, and small, egg-shaped, obtuse, nearly sessile *stigmas*. *Leaves* sometimes opposite. *Floral-scales* small, blunt, and black. *Bark* very bitter. *Fl. Brit. and E. bot.*

Bitter purple Willow. The *S. purpurea* of LINN. hitherto confounded with *S. Helix*, but a much rarer plant. In marshes and by the sides of rivers.—In King-street meadows, Norwich. MR. CROWE; now scarcely to be found there. DR. SMITH.—Peakirk and Thurnby, Northamptonshire; and between Vauxhall and Nine Elms, by the Thames side. MARTYN.—About Beverley. TEESDALE. S. March. E.)

2. *S.* Leaves strap-spear-shaped, smooth: upper leaves oblique: flowers with 1 stamen: (style elongated, thread-shaped: summits strap-shaped. *Fl. Brit. E.*) *Helix*.

E. bot. 1343—Curt.—*Hoffm. sal.* i. 1. and 5. 1—*Fuchs.* 334—*Ger. em.* 1389. 2.

A shrub, somewhat taller than a man. *Branches* rod-like, exceedingly tough, in the spring deep purple, often of a blood coral red without. *Inner bark* of a brimstone colour. *Leaf-buds* both above and beneath the flower-buds, each containing 3 leaves applied transversely to the stem. *Flower-buds* beneath the ends of the branches. *Catkins* cylindrical, with 2 leaves. *Scales* brown, hairy. LINN.—(*Twigs* very smooth and polished, pale yellowish or purplish ash-colour. *Leaves* opposite or alternate on the same plant; the former is a rare circumstance in this genus. *Fruit-stalks* short. *Stipulas* none. A distinguishing character is the leaf being much drawn out towards the base into a strap-shape. A little pubescence on the youngest leaves only, the older are quite smooth, of a light, rather glaucous green. *Male catkins* an inch long, on shortish stalks. *Scales* concave, tipped with black. *Nectary* oblong, entire. *Stamen* with a 4-lobed anther. *Female catkins* thicker and with broader scales. *Germen* sessile, ovate, silky. *Style* very perceptibly projecting, smooth, with linear, at length cloven, stigmas.

DIANDRIA. MONOGYNIA. *Salix*.

The *S. purpurea*, which Hoffman and Curtis confound with this, is a much rarer plant. *E. bot. E.*)

Rose Willow.—*Salix Helix*. LINN. and Fl. Brit.—*S. monandra*. WITH. Ed. 4.—Hedges, watery places, and sides of rivers, osier beds. S. April—May.*

- (*Lambertia*'na. 3. S. Erect: stamen one: leaves egg-spear-shaped, sharp-pointed, serrated, smooth: leaf-scales none: stigmas very short, egg-shaped, notched.

E. bot. 1359:

Much resembles *S. Helix* and *Forbiana*, but differs essentially in having *catkins* not more than half so large and thick, and especially in its *stigmas*, which are short, egg-shaped, notched, and nearly sitting. The young growing branches and leaves are much like those of a honey-suckle, in their glaucous hue, with a purplish tinge in their upper part, which is more or less downy. *Leaves* of a broad figure, dilated above the middle half as long as those of *S. Forbiana*, and broader, as well as shorter than those of *S. Helix*. *Fl. Brit. and E. bot.*

Boyton Willow. On the banks of the Willy at Boyton, Wiltshire; in osier-holts near Stains. Mr. LAMBERT.—About Lachford bridge, near Icklingham, Suffolk. Mr. CROWE.—About Ham Ponds, near Sandwich. Mr. WOODS, jun. and about Lewes. Mr. BORRER. *Bot. Guide*.

P. March—April. E.)†

- (*Forbia*'na. 4. S. Stamen one: leaves with small leaf-scales, spear-shaped, sharp-pointed, finely toothed, smooth, glaucous beneath: stigmas strap-shaped.

E. bot. 1344.

Stamen not cloven, but simple as in *S. Helix*. *Leaves* alternate, rarely almost opposite, truly spear-shaped, pointed, of a darker green above, and more thickly toothed or serrated than in *S. Helix*; glaucous beneath. *Leaf-scales* small, spear-shaped, sharp-pointed, often wanting. *Catkins* sitting, so very like as scarcely to be distinguished from *S. Helix*, but the leaves are sufficiently distinct.

Basket Osier. (Not the *S. fissa* of HOFFMAN.) Fincham, Norfolk. Rev. J. FOREY.—Frequent in Cambridgeshire.—In osier grounds near Lynn. Mr. CROWE.

S. April. *Fl. Brit. and E. bot. E.*)‡

* Baskets, cradles, and all sorts of twig-work, are made of its long, slender, and flexible shoots.—The ends of the branches often produce rose-like excrescences, which are caused by an insect. HOFF.

† (Scarcely inferior to *S. Forbiana* for basket work, and much more common E.)

‡ (Highly valuable as an osier for the finer kinds of basket work. E.)

5. S. Leaves strap-spear-shaped, acute. HUDS.—(Minutely ru'bra. toothed, green on both sides. *E. bot. E.*)

E. bot. 1145.

Branches greenish, tending to red. Leaves like those of *S. viminalis*, but wholly green; (alternate on short foot-stalks, 3 or 4 inches long, the young ones only slightly downy. *E.*) Buds reddish. Catkins at first red, afterwards greenish yellow. RAY. (Female Catkins not an inch long, obtuse. Germen sessile, silky, with a very short style, and ovate thick stigmas. *E. bot. E.*)

Red Willow. Willow beds, but not common. Osier holt, between Maidenhead and Windsor, on the side of the river near Salisbury. (Between Prickwillow and Ely, also at Icklingham, Suffolk. Rev. Mr. HEMSTED. *E. bot.* Near Bedford, Rev. Dr. ABBOT. *Bot. Guide.* Just out of Kent-street, London, on the Dover road, and Osier grounds at Newington and Middlesex. Mr. J. WOODS, jun. *ditto.* Near Salisbury. SHERARD. *E.*)

T. April—May.*

Mr. Hudson introduced this species, seemingly upon the authority in Ray's Syn. without having seen it himself; it has been formerly thought only a variety of the *S. viminalis*, though Hoffman conjectures it may belong to the *S. monandra*.

- (6. S. Monadelphous; leaves elliptical, slightly serrated, quite smooth, glaucous beneath. Crowea'na.

E. bot. 1146.

A small irregularly growing tree, with short, brittle, yellow or purplish divaricated branches. Leaves alternate, on broad stalks, spreading, hardly an inch and half long, somewhat inversely egg-shaped, acute; points in maturity, reflexed and often split. Male Catkins egg-shaped, short, of a bright yellow when young. Scales egg-shaped, hairy, tipped with black. Filaments, more or less united at their base. Anthers orange coloured. Female Catkins not yet observed. *Fl. Brit.—E. bot.*

Broad-leaved Monadelphous Willow. The only willow with united stamens and broad leaves, discovered by JAMES CROWE, Esq. *F. L. S.* growing in several parts of Norfolk. Of no use as an Osier.—The female plant in Weardale. Mr. WINCH and TEESDALE, Durham. Rev. J. HARRIMAN. *Bot. Guide.* Cranberry Fens, Norfolk. Mr. CROWE. *ditto.* T. April—May. *E.*)

7. S. Leaves oblong-spear-shaped: flowers with 3 stamens. trian dra.
LINN. sometimes 2. HUDS. (germens stalked *Fl. Brit. E.*)

* The twigs are much sought after by basket makers, gardeners, &c. *R. Syn.*

E. bot. 1435—*Hoffm. sal. i.* 9. and 10; *Foliage* 23. 2—*Gmel.* 1. 34. 3.

Six feet high, or more; but seldom assuming the appearance of a tree. *Bark* smooth; yellow green or greenish; branching from every part. *Branches* upright, the upper ones shortest, often spotted with red. *Male catkins* conical, changing to cylindrical, upright, 1 inch long, $1\frac{1}{2}$ inch when old. *Fruit-stalk* $\frac{1}{2}$ inch long. *Nectaries* 2. *Fem. catkin* slender, upright, 1 or $1\frac{1}{2}$ inch long. *Fruit-stalk* 1 inch long. *Leaves* egg-spear-shaped, tapering to a point; lower ones egg-shaped, large, thickish, dark green above, paler underneath, serrated. *HOFFM.*—*Leaves* 1 to 3 inches long; on leaf-stalks. *HUDSON.*—The male plant very frequent; the female I have seen only once. *MR. WOOD.* (*Leaves* strap-oblong, serrated. *Fl. Brit. E.*)

Var. 1. *RAY* mentions a variety which casts its bark. *MILLER* thinks this a distinct species, and gives for a character: "Leaves serrated, smooth, spear-shaped, all alternate;" but he has not described the flowers.

Long-leaved Triandrous Willow. Smooth Willow. Woods, hedges, and banks of rivers. [About Leeds *MR. WOOD.*—Lakenham, near Norwich. *MR. CROWE.*] S. or T. April.*

lanceolata. 8. S. Stamens 3; leaves spear-shaped, tapering towards each end, serrated, smooth; foot-stalks decurrent, germen on a stalk.

E. bot. 1436.

A small tree, distinguished by its long tapering leaves and leaf-scales, and by the base of the footstalk running down remarkably along the branch. The leaves have often a small pair of leaflets at their base.

Sharp-leaved Triandrous Willow. Growing wild in Sussex. —About Lewes and newtimber. *MR. BORRER.* And probably not uncommon elsewhere. T. April—May. *E. bot. E.*)†

amygdalina. 9: S. Leaves spear-shaped, on leaf-stalks: stipulas irregularly 4-sided.

E bot. 1936—*Park.* 1430. 5—*J. B. i. b.* 215. 1.

Very closely allied to *S. triandra*, but the leaves broader and different. The stipulas vary very much in this genus. Differs from *S. fragilis* as follows: a shrub. *Branches* red. *LINN.* (*Leaves* egg-shaped, oblique, serrated, smooth: *germens* stalked; *stipulas* very large. *Fl. Brit.*)

* The bark in doses of one or two drams will cure agues. *Med. Comm.* v. 293.

† (The rods when peeled are apt to split in working, but they are good for brown hampers and crates. *E.*)



Salix Russelliana.
& vid Gent. Mag. June 1785.

This species will, if allowed to grow, form a small and handsome tree. It is characterized by remarkably furrowed young branches; large, round, crenate *stipulas*; and broad, oblique *leaves*, rounded at the base, not sloped off as in *S. triandra*. The *catkins* terminate small lateral branches, and are cylindrical with rounded, slightly hairy scales; the *barren flowers* are yellow, with 3 stamens; *fertile* ones greener. *Capsule* stalked, egg-shaped, compressed, smooth. *E. bot. E.*)

Almond-leaved Willow. Willow beds and banks of rivers. (Sussex and Norfolk.—Common about Blandford. PULTENEY.—Hedges near Gilsland, and in Heaton Dean, Durham. Mr. WINCH. *Bot. Guide*.—At the foot of Box Hill, near Dorking. Mr. J. WOODS, jun. *ditto*. *E.*)

S. April, May, likewise in August, as observed by DILLENIUS, and since by PULTENEY.*

(10. *S.* Leaves spear-shaped, sharp-pointed, serrated, very *Russellia*'na. smooth; germens on foot-stalks, awl-shaped, smooth.

E. bot. 1809.

This plant has often been mistaken for the *S. fragilis* (of very inferior value) till the Duke of Bedford discovered the error; but the whole hue of *S. Russelliana* is lighter, especially the *leaves*, which are also more firm, and narrower, tapering at the base, and not rounded, or ovate; their serratures are more coarse and irregular, mid rib much stouter. *Glands* of the foot-stalks sometimes become leaflets. *Germen* longer than the scale, more tapering and awl-shaped than in *S. fragilis*, with a longer stalk and style. The male plant has not yet been described. *Fl. Brit. & E. bot.*

Bedford Willow. *Licestershire* or *Dishley Willow*. By the first mile stone from Cambridge, on the London road. RELHAN.—Osier grounds at Stoke Newington, near London.—Found throughout the midland and southern counties; in marshes and willow beds.—Known in Ireland, by the name of *Gorgomel Sallow*, as the Bishop of Dromore informs the Rev. S. Dickenson. It is not indigenous there, but had been brought from Holland, and Mr. Dickenson suspects that ours was originally introduced from the same country by cuttings, as only female trees are found here. T. April.—May. *E.*)†

* (It is an inferior kind of osier, but Mr Wolgar of Lewes, mentions it as valued and long cultivated thereabouts, producing a good crop of rods 6 or 8 feet long for many successive years. *E. bot. E.*)

† (The late and present Duke of Bedford have taken much pains to ascertain and bring into notice, the valuable properties of this Willow. The bark is proved to be particularly excellent for the purposes of tanning. The Rev. S. DICKENSON, Rector of Blynhill, who has kindly furnished me with specimens of this interesting plant, has also favoured me with the following re-

- (deci'piens. 11. *S.* Leaves spear-shaped, serrated, very smooth: foot-stalks somewhat glandular: germen tapering, stalked: floral-leaves dilated, and bluntish: branches smooth and highly polished.

E. bot. 1937—*Hoffm. Sal. v. 2. 9. t. 31.*

Bark of the last year's shoots very smooth and shining, light reddish brown or clay-colour, appearing as if varnished. *Young twigs* often stained beautifully with crimson. *Leaves* resembling those of *S. Russelliana*, but smaller, and those on the short flowering branches remarkably different, being obtuse, nearly obovate, and recurved, except only the upper one. *Stamens* 2, rarely 3. *Nectary* in the male, double. *Germen* stalked, tapering, smooth. *Scales* all elliptic oblong, hairy. *E. bot.*

White Welch, or *Varnished Willow*. Observed wild by Mr. T. F. FORSTER, near Tunbridge; in Northumberland and Durham by Mr. WINCH; by Mr. WOOLGAR in moist hedges about Lewes; and by Mr. CROWE in cultivated osier grounds in Norfolk and Cambridgeshire. A small tree. May. E.)*

- pentan'dra. 12. *S.* Leaves egg-shaped, acute: flowers with 5 stamens: (germens smooth, nearly sitting. *Fl. Brit. E.*)

Dicks. h. s.—E. bot. 1805—*Gmel. i. 34. 1—Fl. lapp. 8. z. a leaf only.*

From 6 to 10 feet high. *Branches* yellowish purple. *Buds* consisting of 2 opposite valves, sending out both catkins and

marks:—"Of this estimable tree only female plants occur in Britain: from rapidity of growth and the extraordinary bulk to which it attains, this is one of the most profitable to plant of the willow kind. In less than thirty years from planting the cuttings, I have experienced that it will afford a considerable quantity of very useful boards for various purposes. Being of excellent cleft, it is convertible at a light expence, into hurdle bars, and is cultivated for that purpose by some agriculturists in this neighbourhood, particularly where large flocks of sheep are depastured upon turnip soils. In Worcestershire it is in great estimation for hop-poles. The celebrated willow, near Lichfield, which goes by the name of the *Johnson Willow* (not that it was planted by the sage, but that his delight was to repose under its shade) proves to be *S. Russelliana*. Excited by this information I have recently paid a visit to the far famed willow, situated by the foot path, which leads direct from the Minster to Stowe. The magnitude of this tree is truly surprizing, especially when the general character of its congeners be considered. I found the trunk at 6 feet above the ground to measure 21 feet in girth, and to extend 20 feet in height of that vast size before dividing into enormous ramifications. The whole trunk thus comprising about 130 solid feet of timber, continues perfectly sound, and the very exte sive head shews unimpaired vigour. A younger plant, (though a full sized tree,) in the adjoining meadow, promises to sustain the reputation of its sire. E.)

(* Produces good rods for basket work, at least, while young. Mr. WOOLGAR. E.)

leaves. *Leaves* yellowish green; the teeth at the edges pour out a yellow gum, so that put fresh into a book and compressed, there remain as many yellow dots on the paper as there are teeth in the leaf. *Catkins* very yellow. LINN.—Sweet scented. LIGHTFOOT.—*Leaves* glossy, in hot weather exhaling an odorous perfume. CURTIS.—*Catkins* terminating the new shoot of the year, and not appearing until May. Mr. STACKHOUSE.—*Nectaries* 3, yellowish brown, two next the spike-stalk, and the third next the scale. ST.—Small *branches* alternate. *Leaves* egg-spear-shaped; 11 on the barren, and 6 or 8 on the fertile shoots; the 2 lower leaves comparatively small and inversely egg-shaped. *Nectaries* often wanting in the flowers in the extremity of the catkin, in room of which there are 3 additional, perfect stamens. Mr. GOUGH.—Sometimes grows to the size of a tree, 12 feet high or more.

Sweet Willow. Bay-leaved Willow. S. pentandra. Fl. Lapon. *S. hermaphrodita. LINN. Sp. pl.* It yet remains to be determined whether the *S. pentandra* β of Fl. suec. be a native of this country.—Woods and hedges. Common about Kendal. Mr. GOUGH.—In the North of England, and Coomb Wood, Surry.—About Kilnsay and Carr End Wensledale, where it is the most common species. CURTIS.—Near Bungay, Suffolk, frequent. Mr. WOODWARD.—On the side of a wet ditch, on the outside of some gardens without the East gate, Stafford. ST.—Plantations at Mr. Boulton's, Soho, near Birmingham.—(Woods about Stayley Hall and Common, Cheshire. Mr. BRADBURY. *Bot. Guide*.—Tyne Head, many places at Alston, Graystock, Abbey Holm, &c. Cumberland. HUTCHINSON.—Pockerley, near Beamish. Mr. WINCH.—Near West Boldon and Cleadon, Durham. Mr. THORNHILL and Mr. WAUGH. *Bot. Guide*.—Chelsea, in the way to Fulham. MARTYN.—Near Little Caw Lake, Northumberland. Mr. WINCH.—In Lewes willow beds, and near Worthing. Mr. BORRER.—Frequent in Westmoreland; about Leeds, Bingley, and Otley; banks of the Ure at Ripon. E.) S. April—July.*

(13. *S.* Leaves elliptic, spear-shaped, scalloped, smooth, glaucous beneath: germens on pedicles, spear-shaped, pointed, silky. ni'gricans.

E. bot. 1213.

This willow scarcely forms a tree. *Branches* straightish, cylindrical, brittle, dark coloured, smooth; the young ones downy. *Leaves* 2 or 3 inches long, elliptic-spear-shaped, acute, scarcely rounded at the base, crenate in every part; dark-green and smooth above, turning black when dried; beneath glaucous,

* The wood crackles greatly in the fire.—The branches are cut to make springles.—Sheep and goats eat it.—The leaves dried afford a yellow die. LINN.—Much used in Yorkshire for making the larger sort of baskets. CURTIS.

veiny, sometimes a little downy. *Stipulas* (if any) large, obliquely-heart-shaped, serrated, smooth. *Catkins* yellow, an inch or more in length, thick and blunt, their scales inversely-egg-shaped, narrow, brown in their upper half, hairy. *Stamens* 2, distinct, hairy below. *Capsules* (in the Linnæan specimen) spear-shaped, brown, downy, each on a little partial stalk.

Dark broad-leaved Willow. Linn. Trans. Fl. Brit. and E. bot. The female plants of this species do not appear to have yet fallen under observation in this country, even those named in the Linn. Trans. Dr. Smith imagines to be erroneously so called. The male plant has been remarked growing at Wrongay fen, Norfolk, by Mr. CROWE, and in osier grounds in many places.—Foot of Boxhill, Surrey. Mr. J. WOODS, jun. *Bot. Guide.* P. April. E.)

(bi)color.

14. *S.* Leaves elliptical, acute, waved and slightly serrated, nearly smooth, glaucous beneath: germens stalked, spear-shaped, silky.

E. bot. 1806.

Much resembling the preceding species, though truly distinct. Grows in an upright wand-like form when young, and is known by its dark, mahogany coloured *stems*, and the upright, stiff position of its *leaves*. If neglected it forms a small tree. *Leaves* large, dark shining green above, glaucous beneath. *Stipulas* small, half-heart-shaped, serrated. *Foot-stalks* broad at the base. *Female Catkins* an inch long when in full flower, but afterwards twice as long. *Scales* rounded, very hairy. *Style* short. *Stigmas* roundish, notched. *Male Catkins* only half the size of those of *S. nigricans*. *Stamens* much shorter, perfectly smooth, not hairy at their base. *Leaves* also of a brighter green, their margin inclined to be revolute, and rather toothed than crenate. *Germen* shorter, blunter, and less tapering. The branches are not endued with much flexibility or toughness. Linn. Trans. v. 6. *Fl. Brit.* and *E. bot.*

Shining dark-green Willow. *S. laurina* of Dr. Smith, in Linn. Trans. *S. bicolor* of Ehrhart, and Fl. Brit. In willow-beds and other marshy situations.—Not uncommon in woods in Norfolk. Mr. CROWE. S. T. April—May. E.)

(petiola)ris.

15. *S.* Leaves spear-shaped, serrated, smooth, glaucous beneath: germen stalked, egg-shaped, silky: stigmas sitting, cloven.

E. bot. 1147.

Female only known. A small spreading tree. *Branches* slender, flexible, round, smooth, more or less purple or brown.

Leaves 4 or 5 inches long, almost an inch broad when full grown, generally unequal at the base. *Foot-stalks* remarkably long and slender. *Stipulas* small, lunate, smooth, toothed. *Female catkins* scarcely an inch long, on stalks. *Scales* small, obtuse, often notched, black and hairy. The very *young leaves* are tinged with an elegant ferruginous hue.

Fl. Brit. and E. bot.

Dark long-leaved Willow. Discovered by Mr. DICKSON, but the station not exactly known. T. April. E.)

- (16. S. Leaves elliptic-lanceolate, with many serratures, *phylicifolia*. smooth, glaucous beneath: stipulas somewhat lunate, glandular on the inside: germen stalked, silky: style elongated.

E. bot. 1958.

Branches spreading and decumbent, taking root on all sides. *Young twigs* purplish or brown. *Leaves* scattered, not much spreading, 2 inches long, smooth, harsh, bitter, upper side dark and shining. *Catkins* from separate buds, stalked, cylindrical. *Scales* strap-shaped, silky at the back. *Style* smooth. *Stigmas* small, cloven. E. bot.

Tea-leaved Willow. Highlands of Scotland. At Finlanrig, Breadalbane. Rev. Dr. STUART. Fl. Brit.—The real *S. phylicifolia* of Linnæus, now ascertained to be such by Dr. Smith, also described in Fl. Brit. as *S. radicans*, not the *S. phylicifolia* of Jacquin. S. T. May. E.)

17. S. Leaves somewhat serrated, smooth, semi-transparent, *arbuscula*. glaucous underneath: stem rather woody: (catkins egg-shaped, erect. E. bot. E.)

E. bot. 1366—Fl. lapp. t. 8. f. e. and m; Leaves only.

This plant changes wonderfully in the garden, there growing 5 or 6 feet in height. LINN.—Edges of some leaves *smooth*, and others *serrated* on the same plant. (*Stem* erect, slender, about 1 foot high, naked below like a little tree. *Leaves* on very short stalks, spear-shaped, varying in breadth, flat, finely veined; when young silky, but afterwards quite smooth above and nearly so below. *Stipulas* none, except sometimes on very luxuriant radical shoots, where they are small, lanceolate, flat. On such shoots the *leaves* become quite ovate and very broad. *Catkins* lateral, nearly sitting, erect, egg-shaped, short. *Scales* oblong, notched, purplish, hairy. *Germen* silky, egg-spear-shaped, on a short-stalk. *Stigmas* broad, egg-shaped, tawny, with a very short *style*. E. bot. E.)

Little Tree Willow. This new acquisition to the British Flora was first discovered in Scotland by Dr. WALKER, and has been lately found on the banks of the river Isla in Angushire, and at the foot of Ben Lawers by Mr. BROWN. P. April.

vitellina.

18. S. Leaves egg-spear-shaped, acute, smooth above: serratures like gristle: (leaf-scales small and deciduous: stigmas notched. *E. bot.* E.)

E. bot. 1389—*Hoffm. sal.* i. 11 & 12; *Foliage* 24. 1—*Munt.* 12—*Fuchs.* 335.

A middle-sized tree; much branched at the top; branches upright. Bark of the tree grey, chopped, cinnamon coloured within, bitter and astringent. The *Female plants* when left to themselves, have pendant branches, but when lopped, stiff and straight. *Male catkins* at first upright, then turned down; cylindrical, slender, serpentine, 2 inches long, or more; on fruit-stalks half an inch long. *Stamens* 2. *Nectaries* 2. *Female catkins* 2 to 3 inches long, on fruit-stalks 1 to 1½ inch long. *Leaves* alternate, upright, slightly serrated; mid rib yellowish; about 3 inches long and 1 broad, but always broader in the female plant. HOFFMAN.

Yellow Willow. Golden Osier. Osier holt, frequent.—(Mr. Crowe observed it abundant and certainly native in rough, low pastures, near Watton, Norfolk. Dr. SMITH.—Queen's College Grove, Cambridge. REILMAN.—Banks of the Team and Tyne, Northumberland, Durham. Mr. WINCH in *Bot. Guide*.—At Stoke Newington, Middlesex. Mr. J. Woods, jun. ditto.—Thurnby, and at Sir J. Shaw's Decoy, Northamptonshire. MORTON.—Near Henley, Oxon. SIETHORPE. E.) T. May.*

fragilis.

19. S. Leaves egg-spear-shaped: leaf-stalks toothed with glands: (nectary of the male flower double. *Fl. Brit.* E.)

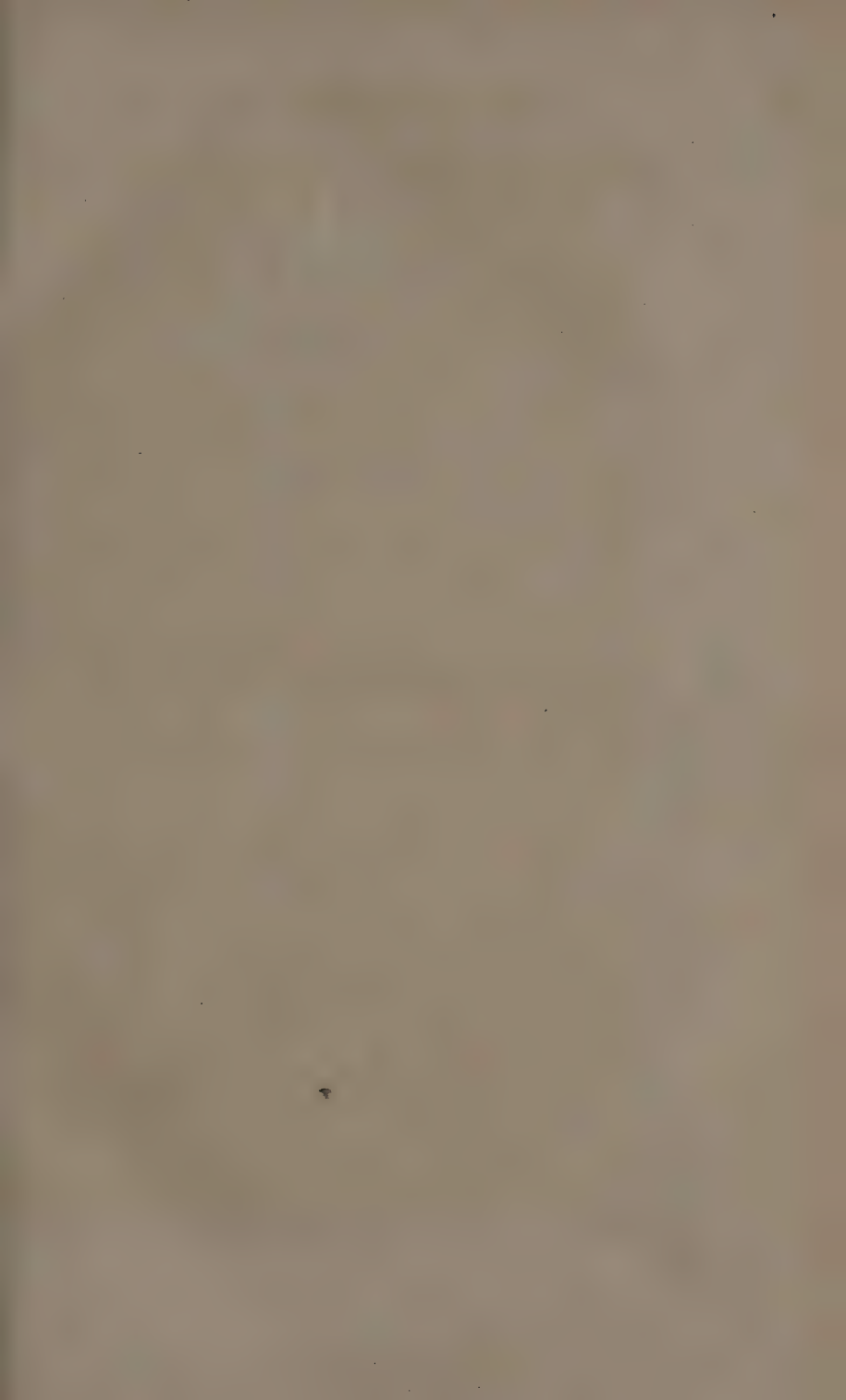
E. bot. 1807—*Woodv.* 198—*Hunt. Evel.* 245. i. p. 238. ed. II. —*Fl. lapp.* 8. 6. a leaf only.

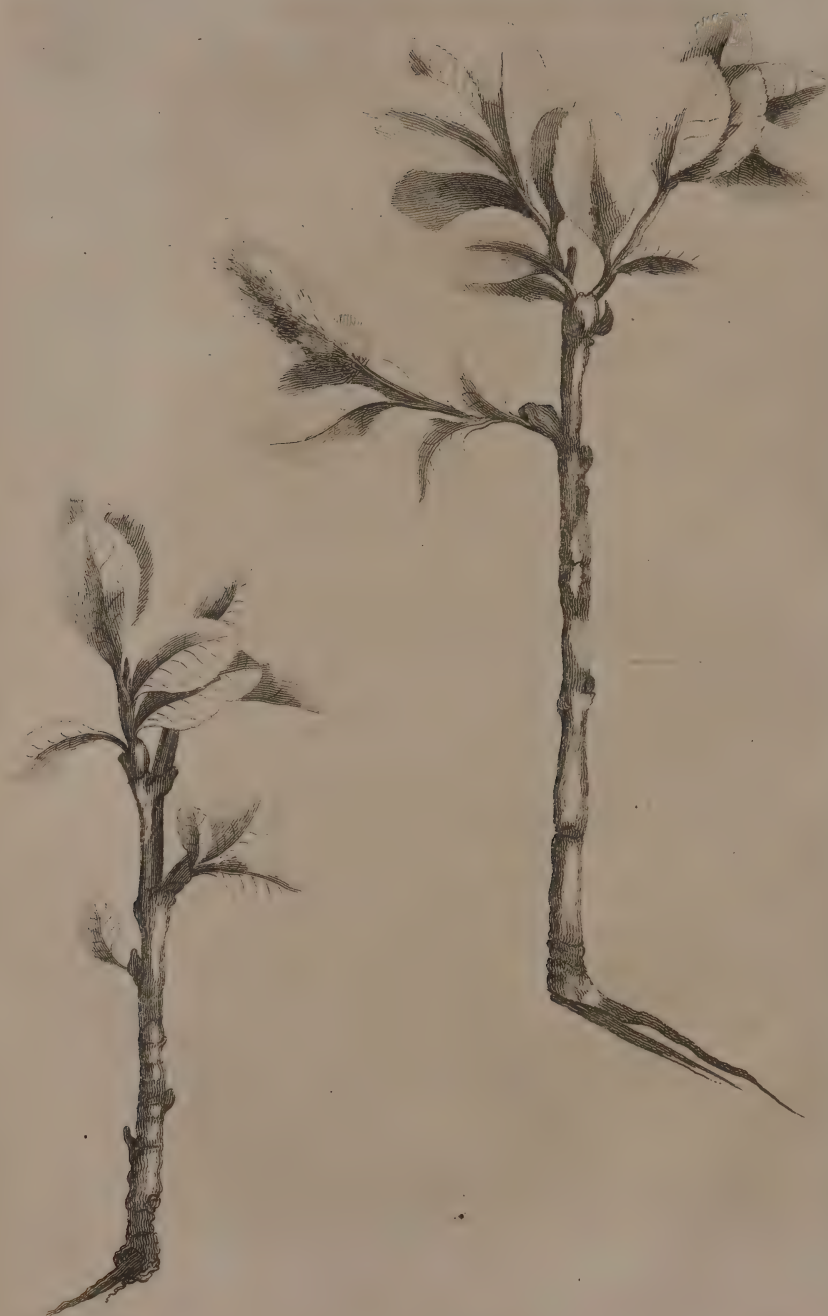
A tall tree. The branches, if struck with a finger, break off at the shoot of the present year. *Fruit-stalks* with 2 or 3 leaves at the base, often falling off. LINN. (*Leaves* very smooth. *Male flowers* with an abortive germen. The tree remarkable for the crooked position of its branches. *E. bot.* E.)

Crack Willow. Woods, hedges, and banks of rivers. [Near Shottisham, Norfolk. Mr. CROWE.] (At Mill-bank, Westminster. *E. bot.* E.) T. April—May.†

* The shoots are used by crate and basket-makers. The wood is white, and very tough.

† It will thrive in most kinds of soil, if they be sufficiently moist. It is a quick grower, and bears cropping. The *White Satin Moth* sometimes eats all its leaves. The bark in doses of one or two drams will cure agues. *Med. Comm.* v. 299.





SALIX RETUSA
or MYRSINITES.

- (20. S. Leaves elliptical, acute, serrated, smoothish, glaucous beneath: stipulas small or none: capsules very smooth. *Fl. Brit.* tenuifolia.

E. bot. 2186—*Fl. Lapp.* t. 8. f. e.

From one to two feet high, very much branched and spreading. *Branches* reddish; the younger ones pubescent, with very short down, and bent inwards. *Leaves* elliptical, rather pointed, slightly serrated, besprinkled when young with fine close-pressed hairs; bright green above; glaucous and whitish beneath, reticulated with veins; the rib sometimes hairy. *Male catkins* yellowish, an inch long, with very hairy scales. *Stamens* 2. In the wild female shrub the catkins are finally an inch and half long, with egg-spear-shaped, smooth, sessile capsules, a long style, and rather thick, notched stigmas. *Pubescence* variable. *Fl. Brit.* and *E. bot.*

Thin-leaved Willow. Amongst rocks on the banks of rivers. Discovered by Dr. SMITH above the bridge at Kirkby Lonsdale, Westmoreland.—Near Hertford. Mr. J. Woods, jun. in *Bot. Guide.* S. May—June. *E.*)

21. S. Leaves egg-shaped, serrated, smooth, veiny: (capsules awl-shaped, downy: young branches hairy. *E. bot.* *E.*) myrsinites.

E. bot. 1360—*Hoffm. sal.* i. 17. 18. 19. and *Foliage* 24. 2.—*Fl. Dan.* 1054—*Fl. Lapp.* 7. 6. *Leaves only*; 8. e. f.—*Pl.* XXXII.

A shrub, some feet in height; bark smooth, dark brown or blackish. *Branches* upright but spreading. *Male catkins* crowded, oblong, or egg-oblong, 1 to 1½ inch long, on short fruit-stalks. *Stamens* 2. *Nectary* 1. *Female catkins* shorter than the other when in flower, egg-oblong. *Capsules* on a pedicel, very smooth. *Leaves*, during the flowering, egg or inversely-egg-shaped, smooth on both sides, thin and nearly transparent, finely and acutely toothed, on short stiff leaf-stalks. Afterwards 1 inch broad, more than 1 inch long, both sides of the same colour, serrated all round, pointed at the end. *Leaf* often 1½ inch long, furnished with *stipulas* of a squarish irregular figure, and serrated. HOFFMAN. (A little sturdy shrub scarcely 2 feet high. *Young leaves* a little silky. *Leaf-scales* serrated, smooth, spreading, often very large. *Catkins* terminal, erect, thick and obtuse, purplish. *Anthers* blueish. *Scales* inversely-egg-shaped. *Nectary* notched. *Capsule* tapering, downy when young. *Stigmas* oblong, cloven. *E. bot.*—In conformity with the opinion of Dr. Smith we have for the present

reduced our *S. retusa* to *S. myrsinites*. The figures certainly agree, but the specimens of *S. myrsinites* in our herbarium exhibit some little difference of appearance.

Green Whortle-leaved Willow. *S. myrsinites*. LINN. FL. Brit. *S. retusa*. DICKSON. WITH. Ed. 4. First discovered in this island by Mr. DICKSON on rocks upon Ben Lawers, in Scotland. —Glencó. Mr. STUART. *S.* April—May. E.)

- (*prunifolia*. 22. *S.* Leaves egg-shaped, serrated, naked, smooth above, glaucous beneath: branches rather downy: capsules egg-shaped, silky.

E. bot. 1361—*Hoff. Sal. v. 1. t. 19.*

Stem 3 feet high, much branched, but less constantly erect than in *S. myrsinites*; the young branches clothed with soft, short, curved down, not rigid, prominent hairs. *Leaves* larger, egg-shaped, flat, serrated; quite smooth, green and shining, without any prominent veins on the upper side, glaucous, veiny, and often silky beneath. *Leaf-scales* very minute, half-egg-shaped, convex, notched, often wanting. *Catkins* from short lateral branches, erect, cylindrical, not half so thick as in the real *S. myrsinites*, with round, very hairy, or silky scales. *Nectary* oblong. *Capsules* smaller than in that species. *Stigmas* short, thick and roundish, cloven. *Summit* small, cloven. *Fl. Brit. and E. bot.*

Plum-leaved-Willow. *S. myrsinites*. LIGHTFOOT. 599. We suspect this to be the *S. myrsinites* of WITH. Ed. 4. and that the stations formerly included under that name must belong to this *S. prunifolia*, as follows:—Scottish mountains. On the slope of a high hill between Kilhlly and Arncliffe, Yorkshire. Mr. CURTIS.—Banks of a brook by the road side at the foot of Orton Scar. Mr. GOUGH.—On Ceraig Vou, Breadalbane. Mr. BROWN. *S.* April—May. E.)

- (*venulo'sa*. 23. *S.* Leaves egg-shaped, serrated, naked, reticulated with prominent veins above, rather glaucous beneath: capsules elliptical, silky. *E. bot.*

E. bot. 1362.

This much resembles the preceding species in size, general habit, and leaf-scales; but the *leaves* differ materially in having their upper surface always elegantly reticulated, especially towards the margin. The *catkins* are more slender, their *scales* egg-shaped and blunt; *stigmas* like those of *S. prunifolia*.

Veiny-leaved Willow. From the Highlands of Scotland. DICKSON. *S.* April. *Fl. Brit. and E. bot.* E.)

- (24. *S.* Leaves egg-shaped, finely toothed, smooth, minutely veined, folded so as to form a keel: capsules egg-shaped, downy. *carinata*.

E. bot. 1363.

Larger and more upright than *S. prunifolia* or *S. venulosa*; the young branches are elongated and straight, nearly smooth. *Leaf-scales* very minute, but shaped as in those species. *Leaves* remarkably recurved and sharply keeled, so that the two sides approach each other, and the leaf cannot be pressed flat. Both surfaces finely veined, the under slightly, glaucous. *Catkins* small, egg-shaped, with short roundish concave hairy scales. *Germen* twice as long as its corresponding scale, egg-shaped, silky. *Stigmas* nearly sitting, egg-shaped, thick and short, at length notched.

Folded-leaved Willow. Communicated by Mr. DICKSON from the Scottish Highlands.

S. April. *Fl. Brit.* and *E. bot.* *E.*)

- (25. *S.* Leaves elliptical, acute, slightly toothed, smooth: young branches very smooth: catkins egg-shaped, short, erect: germen silky. *Dicksonia*'na.

E. bot. 1390.

A small upright branched shrub, about 1 foot high, smooth in all its branches, leaves and stalks. *Leaf-scales* very minute. *Leaves* on short, thickish foot-stalks, flat, upper surface very even and bright green; the under glaucous, finely veined. *Catkin-scales* dark purplish brown, concave, notched, hairy. *Germen* stalked, egg-shaped, with a short style, and thick yellow notched stigmas. *E. bot.*

Broad-leaved Mountain Willow. *S. myrtilloides.* *Fl. Brit.* but not of Linn. Scottish Mountains. Mr. DICKSON.

S. April. *E.*)

26. *S.* leaves circular, (serrated, very smooth, reticularly veined, shining on both sides: capsules smooth. *herba*'cea.
Fl. Brit. *E.*)

Hoffm. sal. i. 20—*E. bot.* 1907—*Fl. lapp.* 7. 3. male; 8. h. a leaf—*Fl. dan.* 117—*Fl. lapp.* 7. 4. female—*Pluk.* 436. 7.

The smallest tree I am acquainted with. *Branches* hardly an inch long, and with seldom more than 3 leaves. *Leaves* nicked at the base. *Leaf-scales* none. *Fruit-stalk* from the same bud with the leaves. *Pistils* smooth. *Flowers* yellow. LINN.—*Stem* about 1 inch high; bark ash-coloured or brown. *Branches* irregular, knotty, striking root. *Male catkins* termi-

nating, upright, some lines in length, on fruit-stalks as long as themselves. *Stamens* 2. *Nectaries* 2. *Female catkins* terminating, shorter than the male, on fruit-stalks of the same length. *Leaves* roundish or egg-shaped, very minutely serrated; the largest nearly 1 inch diameter; blunt, or slightly notched at the end; smooth; on leaf-stalks. Hardly to be called herbaceous; it is rather hard and woody. **HOFFMAN.**

Least Willow. Herbaceous Willow. On the sides of Snowdon, and on the mountains of Westmoreland, Yorkshire, and Scotland. (Near the summit of Carnedd, Llewelin; and about Bwlch Glâs, ascending Snowdon. Mr. GRIFFITH. E.)—[Among the highest rocks of Snowdon. Mr. WOOD.—Summit of Skiddaw, and other mountains in the North. Mr. WOODWARD.]—(On a mountain called the Beacon, near Brecon. Mr. JONES, in *Bot. Guide*.—Summit of Skiddaw and Saddleback. HUTCHINSON.—On Ingleborough, Yorkshire. TEESDALE. E.)

S. Junc—July.*

(2) *Leaves perfectly entire, smooth or nearly so.*

reticulata.

27. *S. Leaves* egg-shaped, blunt. LINN. (very entire, smooth, reticularly veined, glaucous beneath: capsules hairy. *Fl. Brit. E.*)

Hoffm. sal. ii. 25. 26. 27—E. bot. 1908—J. B. i. b. 217. S. pum. fol. rot.—Fl. dan. 212. leaves only—Fl. lapp. 7. 1, and 2—ib. 8. 1.

A little larger than *S. herbacea*. *Stem* purplish, scarcely a finger's length. *Buds* nicked at the ends with 3 leaves. *Leaves* on leaf-stalks, thick, large compared with the stem, obscurely hairy when fresh, above green, wrinkled and shining, sea-green, and with a net-work of veins underneath, the veins at first red, afterward green. *Spike* from the same bud with the leaves, blue. *Stipulas* none. *Capsules* with very fine whitish soft hairs. LINN. —A shrub, not much more than a finger's length, prostrate. *Male catkin* mostly terminating, rather woolly, an inch long, on a long, slender fruit-stalk. *Stamens* 2. *Nectary* double. *Female catkin* terminating, seldom more than one on a branch, cylindrical, rather longer than the male; on a very long fruit-stalk. *Leaves* on leaf-stalks, egg-shaped or elliptical, either pointed, or rounded, or notched at the end; thick, rigid, very entire; when fully grown smooth on both sides, but marked with a net-work of veins. **HOFFMAN.**

Net-work Willow. Wrinkled Willow. Mountains of Wales, Yorkshire, Cumberland, and Scotland. (Near the summit of Carnedd Llewelin; rocks on the north side of Penmaen Mawr,

* Horses and cattle are fond of it.

and of Llandidno, Carnarvonshire. Mr. GRIFFITH.—On Ingleborough, Yorkshire. RAY.—At Tyne Head; in many places at Alston, Graystock, and Abbey Holm, Cumberland. HUTCHINSON. E.) S. May.

(3) *Leaves hairy or woolly.*

- (28. S. Leaves nearly entire, egg-shaped, acute, reticulated and somewhat downy above, very woolly and veiny beneath. E.)

E. bot. 1809—*Fl. dan.* 1058?

(A stout, branched bushy shrub, 2 to 4 feet high, with reddish brown slightly downy twigs. Down cottony and depressed. Leaves slightly waved, somewhat revolute. *Stipulas* none. *Foot-stalks* broad at the base, not decurrent. *Catkins* egg-shaped, soon becoming cylindrical, hairy. *Stamens* smooth. *Fl. Brit.* and *E. bot.* E.) *Lower-leaves* spear-egg-shaped, but acutely pointed; about 1 inch long; *upper ones* twice as long.

(*Downy Mountain Willow.* *S. lapponum* of HUDS. LIGHTF. and WITH. Ed. 4. but not the *S. lapponum* of LINN. a species not yet ascertained as a native of Britain. Dr. SMITH. E.)—Highland mountains. Creg-chaillich and Mal-ghyrdy, Breadalbane. Mr. STUART.—Not far from the marble quarry near Porta-currach in Icolmkill, *Garnett's Tour*.—(On the S. W. coast of Anglesea. Rev. H. DAVIES, in *Bot. Guide*.—Basford Bottom, Nottinghamshire. MARTYN. S. May—June. E.)

- (29. S. Leaves nearly entire, elliptic-lanceolate, even and nearly smooth above, woolly beneath: foot-stalks decurrent. glau'ca.

E. bot. 1810.

Dr. Smith observes in *E. bot.* that *S. glauca* is new to our Flora, and not well known to Botanists in general. It has been considered as a variety of *S. arenaria*, but Mr. Crowe was aware of its difference. It is the size of *S. arenaria*, but the elliptical, narrower, smooth and even leaves, peculiarly white, (when young beautifully satiny,) with less prominent veins beneath, and the more decurrent *foot-stalks*, evidently distinguish it; the *stigmas* are shorter and thicker, and we have occasionally noticed convex rounded *stipulas*, not observed in the other.

Glaucous Mountain Willow. Highlands of Scotland. The Herbarium of Linnæus shows it to be his *S. glauca*. Notwithstanding Dr. Smith's ingenious discriminations we doubt whether they amount to a specific difference. S. May. E.)

argentea

30. (*S.* Leaves entire, elliptical, somewhat revolute, with a recurved point, rather downy above; silky and shining beneath, as well as the branches. *E. bot.* *E.*)

E. bot. 1364—*Hoffm. sal.* ii. 28 and 29—*Jacq. austr.* 409.

About 5 or 6 inches long. *Root* thick, fibrous brown.—*Branches* several, knotty, trailing, bark dull reddish or greyish brown, often putting forth roots. *M. Catkins* terminating, scattered, egg-oblong, near half an inch long, black purple, with soft white hairs. *Fruit-stalk* long, cylindrical, woolly, furnished with 3 to 5 leaflets, silky at the edge and on the back. *Stamens* 2. *Nectary* 1. *F. Catkins* fewer, scattered, upright, egg-oblong, on fruit-stalks which continue to grow longer. *Leaves* crowded, firm, upright, very entire, egg-spear-shaped, rather acute at both ends, but sometimes rounded, broader and blunt, smooth, rather shining, dark green, reticulated, transparent when viewed against the light. *Leaf-stalk* smooth, short. *HOFFMAN.*—*Leaves* when young covered with a silky down, especially on the back and at the edge, but this vanishes with age. The readiest mark of distinction betwixt this and the preceding species, is the Catkins being on the sides of the branches in *S. repens*, and terminating in *S. fusca*. (Dr. Smith describes the *branches* as long, nearly prostrate; the young ones angular and silky. *Leaves* on shortish stalks, about an inch long; upper side green, veiny and smooth when fully grown; the under covered with beautiful silvery close-pressed hairs. *Stipulas* variable in size, egg-shaped, flat, entire, silky. *Catkins* cylindrical, obtuse, at first sitting. *Scales* strap-shaped, inclining to inversely egg-shaped, obtuse, or notched, hairy. *Stamens* yellow, smooth. *Capsules* on very long stalks. *Style* short. *Stigmas* at length cloven. *E. bot.* *E.*)

Silky Sand Willow. *Brown Willow.* *S. repens* δ HUDS. *S. arenaria.* LIGHTFOOT.—*S. fusca.* WITH. ed. 4. *E.* Sea shores amongst loose blowing sand, in various parts of England, Scotland and Wales. *E.* as in Cantire, between Macri-anesh and Bar. LIGHTFOOT.—On the slope of a high hill, between Kilnsay and Arncliffe, Yorkshire. CURT.—(In the Sand Burrows at Langhorn, Carmarthenshire. Mr. HURLOCK. *Bot. Guide.* A little north of Sandown Castle, plentifully, and about Walmer Castle, Kent, and on Water-down Forest, near Tunbridge Wells. Mr. J. Woods, jun. ditto. *E.*)

S. May—*July.*

(prostrata,

31. *S.* Leaves elliptical, acute, convex, rarely toothed; glaucous, rugged and silky beneath: stem prostrate. *Fl. Brit.*

E. bot. 1959.

Stems forming an entangled mat, most of the *branches* long, straight, and tough, spreading on the ground; some few short ones, standing erect; all are leafy, round, finely downy when young. *Leaves* scattered, on shortish thick stalks, scarcely an inch long, somewhat recurved; above dark, minutely downy, veiny, convex; *stipulas* rare and small, merely little glands; *catkins* egg-shaped, blunt, dense, silky; *scales* with a blunt, brown tip; *germen* egg-shaped, silky, somewhat stalked; *style* short and thick; *stigmas* cloven. *E. bot.*

Prostrate Dwarf Willow. In moist mountainous situations, found by Mr. DICKSON in Scotland; and by Mr. E. FORSTER, near High Beech on Epping Forest.—On Broadwater common, near Tunbridge Wells. Mr. J. WOODS, jun. in *Bot. Guide*.

S. May. E.)

- {32. *S.* Leaves elliptic-oblong, acute, straight, flat, with a *fusca*. few glandular teeth, glaucous and silky beneath; foot-stalks slender; stem erect, much branched; stipulas none. *E. bot.*

E. bot. 1960—*Fl. Lapp. ed. 2.* 299. *t. 8. f. r.*

Upright, bushy, about a foot high, not creeping, as far as we can observe from cultivating it many years, though Linnæus says otherwise. *Branches* round, downy when young, thickly clothed with leaves. *Buds* large, egg-shaped, red and shining. *Leaves* scarcely an inch long, in drying they turn black or brown. *Catkins* egg-shaped, short and dense, with brown hairy obtuse scales. *Anthers* red before they burst. *Nectary* egg-shaped, brown. *S. repens* is best distinguished from this species, by its creeping stem, the leaves being not always entire. *Fl. Brit. & E. bot.*

Brownish Dwarf Willow. S. fusca. LINN. Not rare in moist mountainous heaths of the North.—In Breadalbane. Rev. Mr. STUART.—In Epping Forest, Essex. Mr. E. FORSTER, jun. in *Bot. Guide*.—Near Southampton. Dr. PULTENEY.—Common on heaths about London. Mr. J. WOODS, jun. in *Bot. Guide*.—Pastures near Showing Shields, Northumberland. Mr. WINCH, ditto—Near Beverley. TEESDALE. S. May. E.)

- {33. *S.* Leaves elliptical, nearly entire, with recurved *parvifolia* points, glaucous and silky beneath: stem decumbent: stipulas egg-shaped, entire.

E. bot. 1961.

Stem much branched, entangled. *Branches* wand-like, a foot or 10 inches long, spreading obliquely, or procumbent, clothed with innumerable leaves, round, thickish, hairy or silky. *Leaves* spreading or recurved, half an inch long, margin slightly revolute. *Buds* large, ovate, silky. *Scales* obovate brown, hairy. *Germen* stalked, silky, becoming nearly smooth. *Style* short, thick. *Stigmas* deeply divided, thick, blunt. *E. bot.*

Small-leaved Dwarf Willow. This new British willow, first published in the English Botany, is there said to preserve its habit and character, so that it cannot be confounded with any other species. It was gathered by the late Mr. CROWE, at East Winch and Wrongay Fen, Norfolk, and cultivated in his garden several years. P. April—May. E.)

(re'pens.

34. *S.* Leaves egg-oblong, smooth above, silky underneath, very entire: stem declining. *Fl. Brit.*

Hoffm. sal. i. 15 and 16; *S. depressa*—*E. bot.* 183—*Clus. i.* 85—*Dod.* 843. 2—*Ger. em.* 1391. 6—*Park.* 1433. 2 and 3—*Ger.* 1205. 6—*J. B. i. b.* 216. 2.

The smallest of our common Willows, and indeed scarcely larger than *S. herbacea*, the points only of the branches appearing above ground. *Stem* of the thickness of a finger. *Branches* rod-like, drooping; the lesser branches sprinkled with white soft hairs. *Leaves* egg-shaped, or egg-oblong, smooth on both sides, sea green underneath, on leaf-stalks, the lowermost transversely opposite, and somewhat hairy. *Leaf-scales* none. *Catkins* lateral. *Capsules* reddish. LINN.—Root thick, creeping, knotty, wrinkled, blackish. *Branches*, some trailing, others upright, from 3 to 7 inches long, tough, knotty, smooth, reddish or dirty green yellow when old, greyish and cottony when young. HOFFMAN.—*Male Catkins* about half an inch long, and one quarter broad. *Female Catkins* rather smaller. *Leaves* half to three quarters of an inch long, one fifth of an inch broad, strap-spear-shaped.

Creeping-Willow. *Salix repens* β HUDSON.—*S. humilis*, *Ger. em.* 1391. ST.—*S. depressa*. HOFFMAN SAL.—Wet sandy heaths. Putney-Heath. In a wood by West Wickham, and Addington near Croydon, [Boggy meadows frequent. WOODWARD.—Boggy parts of Charley Forest, Leicestershire. PULTENEY.]—(A few plants of it in a moist wood at Blymhill; it rarely occurs except in extensive morasses. In Moreton Moors, about three miles from Blymhill, Shropshire, it grows abundantly. Rev. S. DICKENSON. E.) S. April—May.

Var. 2. *Salix repens* α HUDSON. *Clus. i.* 86. 2—*Ger. em.* 1391. 2—*Park.* 1435 3. Either this or a variety of it, with leaves silvery on both sides, was found near Sandwich, Kent. *R. Syn.*)

35. S. Erect: leaves spear-strap-shaped stiff, and straight, rosmarini-nearly sitting, cottony underneath, (entire: stipulas fo'lia. erect, flat. *Fl. Brit.*)

E. bot. 1365—*Lob. obs.* 568. 1. ic. ii. 137. 2—*Park.* 1435. 4—*J. B. i. b.* 214. 2.

Leaves strap-shaped, pointed, underneath shining, silky, woolly. *Leaf-scales* none. LINN.—(About 3 feet high, divided into many slender, leafy branches, silky when young. *Leaves* on short slender stalks, straight, an inch and half or more in length, sometimes a little glandular at the edge; downy above when young, smooth and dark green with age. *Leaf-scales* very upright, flat, spear-shaped, rarely divided. *Catkins* lateral, nearly sitting, egg-shaped, very short, remarkable for being always recurved. *Scales* elliptical, small, black, hairy. —*Germen* on a longish stalk, egg-spear-shaped, silky. *Stigmas* almost black, egg-shaped, at length cloven, with a shortish style. *Fl. Brit.* & *E. bot.* E.)

Salix repens = HUDS. *Rosemary-leaved Willow*. Low fields LINN.—Found among Mr. J. Sherrard's dried plants, the place not named. *R. Syn.* On the edge of a rivulet which runs into Semer Water, Wensledale, Yorkshire. CURT.—In moist sandy places in several parts of Great Britain, especially in the North. *E. Bot.*—(Banks of the Darwent, near Ebchester, Durham. Mr. THORNHILL.—In Eridge Park, Sussex. Mr. FORSTER. *Bot. Guide.* E.) S. April.

- (36. S. Leaves slightly serrated, inversely egg-spear-shaped, underneath reticulated with veins, glaucous, downy: stipulas half-heart-shaped, serrated. cine'rea.

E. bot. 1897.

A small, crooked, and useless tree. The earlier and lower leaves sometimes quite entire. *Fl. Brit. and E. bot.*—Thus has Dr. Smith characterized what he conceives to be the real *S. cinerea* of Linnæus, and distinct from the *S. cinerea* of With. Ed. 4. —Never having seen the plant, it would be presumptuous to venture a contrary opinion, though it must be confessed the descriptions agree with each other almost entirely, more so indeed than with the figure above cited, in which the leaves are represented as far from being slightly serrated.

Grey Willow. In woods. In a wood by the road side near Bromley, Kent. Mr. E. FORSTER.—Norfolk, Cumberland, and Fream Wood. LIGHTFOOT and *Fl. Brit.*—Near Ugley, Essex. Mr. E. FORSTER, jun. *Bot. Guide.*—Boxhill, and at Esher, Surrey. Mr. J. WOODS. jun. *ditto.* T. April—May. E.)

auri'ta.

37. *S.* Leaves woolly on both sides, inversely egg-shaped, furnished with appendages.

Hoffm. sal. i. 4. and i. 5. 3-foliage. i. 22-E. bot. 1487-Fl. Lapp. 8. y; a leaf only.

A shrub, a few feet high; covered with a greyish smooth bark, not cracked. *Branches* numerous, spreading, smooth, tough, blackish brown. *M. Catkins* upright, egg-shaped, blunt, half an inch long or more, 3 or 4 lines broad. *Fruit-stalk* short. *Stamens* 2. *Nectary* single. *Fem. Catkins* upright or expanding, egg-oblong, or cylindrical, blunt, half to one inch long, and half as broad, on longer fruit-stalks. *Leaves* roundish or inversely egg-shaped, very entire but sometimes waved at the edge; blunt or with a short taper point at the end; dark green above, somewhat woolly; paler, cottony and reticulated underneath. *Leaf-stalk* short, cylindrical, cottony. *Stipulas* 2 at the base of each leaf-stalk, kidney-shaped, scalloped and toothed. *Leaves* when young soft, even, an inch long; when old, rigid, wrinkled, and 2 inches or more in length. Sometimes flowers in the Autumn as well as in the Spring. HOFFMAN.

Salix caprea δ HUDS.—*Round-eared Willow*. Woods and hedges.—Dry mountainous heaths. HUDS.—[Frequent about Bungay, Suffolk. Mr. WOODWARD.—(In Shropshire and Wales it abounds. *E. bot.* Very common about Blymhill. Rev. S. DICKENSON. E.)

S. May—June.

The shoots are slender, and tolerably flexible.

aqua'tica.

- 38 *S.* Leaves slightly serrated, oblong-egg-shaped, flat, somewhat woolly underneath, (stipulas rounded, toothed. *E. bot. E.*)

E. bot. 1437.

Catkins cylindrical, with small brown tipped hairy scales, and an oblong nectary to each. *Capsules* tapering, downy on longish stalks. *Stigmas* entire. *Style* very short. *Leaves* vary in shape and size, but are more or less inversely egg-shaped, downy and veiny; thin, soft and pliable, flat and not crisped or waved, in which latter particulars they differ greatly from those of *S. cinerea* and *aurita*. *E. bot. E.*)—*Branches* tough, cylindrical, smooth, reddish. *Leaves* oblong-egg-shaped, a little woolly underneath. *Leaf-stalks* considerably shorter than half the breadth of the leaves, nearly cylindrical, with a gland on each, just above the base. *Leaf-scales* minute, one on each, at the base of the leaf-stalk. *Catkins* egg-shaped, one and a quarter inch long, three quarters of an inch wide.

Water Sallow. Salix caprea, HUDSON, LIGHTFOOT, &c. (*S. cinerea*. With. ed. 4. but neither the *S. cinerea* nor *S. caprea* of Linn. says Dr. Smith. E.)—This is perhaps the most common of all our willows, as well in hedge rows as in woods. Woods and hedges, but not in dry soil. S. April.*

- (39. *S.* Leaves inversely-egg-spear-shaped, flat, minutely indented, acute, underneath glaucous and hairy: leaf-scales small, notched. oleifo'lia.

E. bot. 1402.

Four to ten feet high; *branches* slender, clothed with fine short down. *Leaves* rather spreading, straight, somewhat rigid, tapering from the middle to the base, finely downy above, hairy with reticulated veins beneath, where they often assume a rusty hue. *Foot-stalks* downy. *Flower-buds* very large, downy, brown. *Male catkins* shortish, very thick, with a brown, hairy scale, a blunt nectary, and two distinct, long, golden stamens to each flower. *Fl. Brit.* and *E. bot.*

Olive-leaved Willow. Hedges and coppices. In various parts of Norfolk; and common in Essex. First glen east of Hastings. Mr. J. Woods, jun. *Bot. Guide.* S. March. E.)

- (40. *S.* Leaves elliptical, almost circular, slightly toothed, downy, and marked with rectangular veins beneath: stigmas cloven. cotinifo'lia.

E. bot. 1403.

Remarkable for its round leaves much resembling those of a Quince tree. Specimens from the north only two feet high, those from Norfolk three or four times that height. *Branches* spreading, clothed with fine but not thick-set down. *Leaves* spreading, thick and firm, on thick hairy stalks. *Female catkins* about half an inch long when in blossom, egg-shaped, with blunt, short, black, hairy scales. *Nectary* short, obtuse. *Germen* on a short stalk, spear or egg-shaped, downy, with a considerable *style*, and a pair of spreading, cloven, obtuse *stigmas*. *Capsules* spear-shaped, downy. *Fl. Brit.* and *E. bot.*

Quince-leaved Willow. In the North, also in Norfolk. S. April. E.)

41. *S.* Leaves woolly on both sides, roundish, acute. lana'ta.

Fl. Ross. i. 81. 1—*Leaves only Fl. lapp.* 7. 7; and 8. x.

* The Bark has been made into coarse paper and pasteboard. The wood is excellent for fuel, and also for stakes and hurdles in fences; (and greatly esteemed for wagon staves. E.)

Leaves crowded, egg-shaped, woolly on both sides, very entire, nearly sitting. RAY.—Shrub a span high, trunk hardly a finger's length, very much branched, branch ends covered with silky down. *Leaves* thick, egg-shaped, rather pointed, entire, sitting, densely clothed on both sides with a silvery white silky down. *Stipulas* on the extreme branches, egg-shaped, pointed, woolly. *Female catkin* large, lateral, on a fruit-stalk, with one or two leaflets. *Capsules* white with down. *Fl. Ross.*—The plant thus described by Prof. Pallas is certainly the *S. lanata* of the *Fl. suecica*, but cannot be the plant of Lightfoot, ii. 602; so that it is yet a doubt whether the real *S. lanata* be a native with us or not. Mr. Lightfoot's description does not accord much better with the *S. glauca*, so that the plant found by Mr. Stuart at Finlarig still remains to be ascertained.

(*Withered-pointed Willow. S. sphacelata. Fl. Brit.* but not clearly ascertained. E.) Vallies in the Highlands. Finlarig at the head of Loch Tay. Mr. STUART in *Fl. Scot.* S. May.

capre'a.

42. *S.* Leaves egg-shaped, wrinkled, cottony underneath, waved, toothed towards the end: (capsules swelling. E.)

Hoffman. sal. i. 3. 5. 4. Foliage of the different varieties. i. 21. 1—E. bot. 1488—Fl. dan. 245—Ger. 1203. 3—Ger. em. 1390. 3—Park. 1432. 1—a leaf, Fl. lapp. 8. s.

No otherspecies of *Salix* requiresuch a dry soil as this does. It sometimes becomes a tolerable sized tree. *Branches* when young, palish, downy. *Buds*, the lower producing leaves, the upper catkins. *Leaves* slightly tapering to a point at each end, above green and scarce sensibly downy, underneath pale green with a very thin woolliness; edge marked with some notches, but not obvious unless carefully examined, but from the middle downwards evidently waved. LINN.—*Bark* ash-coloured, cracks very fine. *Male Catkins* egg oblong, 1 to 2 inches long, often 1 inch broad, on short fruit-stalks, which are woolly, furnished with 8 to 12 leaflets, in a double or triple series; the upper catkins flowering first. *Stamens* 2. *Nectary* 1. *Female catkins* oblong or cylindrical, 1 to 2 inches or more in length, half an inch broad, on fruit-stalks which have six or seven leaflets. *Leaves* roundish, egg-shaped, inversely-egg-shaped, or egg-oblong, 4 or 5 inches long, about 3 broad, either smooth or downy above, dark green; blueish grey and cottony on the back, and marked with a network of veins. *Stipulas* only to the uppermost leaves, roundish, finely scalloped. Gleditsch found on this species both male and female flowers, and others that were hermaphrodite. HOFFMAN.

(*Great Round-leaved Sallow*. Common in hedges and thickets. Its copious yellow blossoms enliven the landscape in early spring. Much larger than *S. aquatica*, growing to the size of a moderate tree. *E. bot.* Both sexes of this willow grow at Blymhill, in Shropshire. It blossoms the earliest of the willow kind; the *catkins* are vulgarly and not unaptly called *Goslings*, from their striking similarity of colour, and also appearing precisely at the time goslings are hatched. *Rev. S. DICKENSON*.

T. March—April. *E.*)*

43. *S.* Leaves egg-oblong, cottony underneath: upper ones entire, lower ones scalloped. (*Hoffman*. *Miller*.)
(*Stipulas* kidney-shaped: capsules egg-awl-shaped.
Fl. Brit. E.)

E. bot. 1434—*Hoffm. sal.* i. 6—*Lob. ic.* ii. 137. 1—*Ger. em.* 1390.
4—*Park.* 1432. 2—*Leaf only, Fl. lapp.* 8. *u.*

A shrub about 6 feet high, often resembling a small tree. *Bark* smooth, ash-coloured, branches numerous, upright but expanding. *Male catkins* egg or egg-oblong, one inch or more in length, half an inch broad, blunt, on fruit-stalks about 2 lines long which have 4 or 6 spear-shaped scales. *Stamens* 2. *Nectary* 1, bellied below, with a slender tapering neck, lopped at the end. *Female catkins* the size and shape of the other, on longer fruit-stalks. *Leaves* inversely egg-oblong, or egg-spear-shaped, either entire or a little serrated, 2 inches long and nearly 1 broad; those on the lower branches a little scalloped at the edge, dark green above, with little or no pubescence, cottony on the back, pale or glaucous and reticulated. *Stipulas* kidney-shaped, waved, and toothed at the edge, seldom found on the upper leaves. This is an intermediate species between the *S. caprea* and *S. aurita*, but different from both. *HOFFMAN*.—*Leaves* long and pointed. *RAY*.

S. Caprea β *Linn.* and *Huds.* Thickets and wet places. About Oxford frequent. *RAY*.—[*Kirkstall Abbey*, *Yorkshire*.]—(Female trees are met with about Blymhill, *Shropshire*, where they attain a considerable height and bulk. *Rev. S. DICKENSON*. *E.*)

Var. 2. *Leaves* rounder and smaller.

In hedges near Chisselhurst are some trees of a considerable height. *RAY*.—On high and dryish heaths. *HUDSON*.

* (The wood and branches of the Sallow are particularly useful for making hurdles. Its bark is bitter and astringent, and has lately been much recommended for the same purposes as the Peruvian Cinchona. *E. bot. E.*)

- (*stipularis*. 44. *S.* Leaves spear-shaped, pointed, bluntly scolloped, underneath downy: stipulas half-heart-shaped, very large: nectary cylindrical.

E. bot. 1214.

Branches upright, long, round, clothed with short velvety down. *Leaves* on shortish stalks, nearly erect, 5 inches long, spear-shaped, sharp-pointed, rounded at the base, unequally and slightly scolloped, green and smooth above, downy beneath, with a pale rib and many parallel curved veins. *Stipulas* on short stalks, half-heart-shaped, long-pointed, toothed or cut at the base. *Catkins* large and thick, with *scales* inversely-egg-shaped, hairy. *Stamens* 2. *Nectary* long, cylindrical, blunt. *Germen* on a short stalk egg-shaped, downy. *Style* somewhat elongated. *Stigmas* remarkably long, awl-shaped, recurved, undivided. In structure of fructification it most resembles *S. viminalis*, but it is a far less useful osier. *E. bot.—Fl. Brit.*

Auricled Osier. First noticed by Mr. CROWE in osier grounds, near Bury.—Since found by Mr. E. FORSTER, jun. on the banks of the Lea near Higham Hill, Walthamstow; and near Lea Bridge, Essex. *Bot. Guide.*—Between Pet and Fairlight, near Hastings; and osier ground at Stoke Newington, Middlesex. Mr. J. WOODS, jun. *ditto.*—Near Ripon. Mr. BRUNTON. *ditto.* P. March. E.)

- (*mollissima*. 45. *S.* Leaves spear-shaped, pointed, obscurely scolloped, whitish and silky beneath: leaf-scales crescent-shaped, minute: stigmas deeply divided.

E. bot. 1509.

Branches erect, wand-like, round, reddish, smooth; when young finely downy. *Leaves* alternate, on shortish downy stalks, rounded at the base, thin and pliable, green and smooth above, silky and very soft beneath, with a reddish nerve and curved veins. *Leaf-scales* toothed, hairy. *Female catkins* lateral, sitting, egg-shaped, small. *Scales* inversely-egg-shaped, brown, very hairy. *Germen* on a shortish stalk, spear-shaped, rounded at the base, silky. *Style* short. *Stigmas* strap-shaped, divided to the bottom. *E. bot.*

Silky-leaved Willow. Discovered by Mr. CROWE in osier grounds near Bury, Suffolk.—Since found by Mr. E. FORSTER, jun. near the Lea Bridge road; and in a foot-path from Marshstreet, Walthamstow, to Lea Bridge. *Bot. Guide.*—Common in the south-east of Kent. Mr. J. WOODS, jun. *ditto.*—This is the *S. mollissima* of Ehrhart, but an useless osier, and not the true Velvet Osier. (S. E.)

46. *S.* Leaves spear-strap-shaped, very long, acute, silky *viminalis*. underneath: branches rod-like: (style elongated. *E.*)

Hoffm. sal. 1. 2. and 1. 5. 2. *Foliage* 1. 21. 2—*J. B.* 1. *b.* 212. 2—*E. bot.* 1898—*Fuchs.* 336.—(*Munt.* 12, is *S. vitellina*, and *Hunt. Evel.* 245, *S. fragilis*.)

A slender and very tall *shrub*. *Leaf* and *flower-buds* distinct as in *S. Caprea*. *Leaves* rolled back at the edges before they are unfolded LINN.—Sometimes *tree-like*. *Bark* greyish, smooth, with here and there a crack. *Branches* very long, straight, slender, tough. *Male Catkins* egg-shaped or oblong, one to one and a half inch in length, three or four lines in breadth, on very short fruit-stalks. *Stamens* 2. *Nectary* 1. *Female Catkins* egg-oblong or cylindrical, one to one and a half inch long, half an inch broad; on fruit-stalks two lines long. *Leaves*, especially the lower ones, a span long, or more; waved at the edge.* The leaves being silvery underneath, the nectary in the male flower being long and slender, and the style in the female flower being very long, are sufficient to distinguish this and its varieties from the other species. HOFFMAN. *Leaves* above, deep shining green, underneath greyish, closely beset with very fine short hairs lying close to the substance of the leaf. *Leaf-stalks* about half as long as the breadth of the leaf. A small tongue-shaped, glandular substance fixed to the stem, just above the insertion of the leaf-stalk, in the upper part of which there is a hollow to receive it. *Leaf-scales* minute, one on each side of the base of each leaf-stalk.

Osier. Willow-beds, woods and hedges, especially in moist boggy land. S. April—May.†

47. *S.* Leaves spear-shaped, tapering to a point, serrated, *alba*. downy on both sides: the lowermost serratures glandular: (stigmas cloven. *E.*)

Hoffm. sal. i 7 & 8. *Foliage* i. 24. 3—*Blackw.* 327—*Matth.* 199—*Dod.* 843. 1—*Lob. obs.* 567. 2, *ic.* ii. 136. 2—*Ger. em.* 1389. 1—*Park.* 1430. 1—*Gars.* 508—*Ger.* 1203. 1—*J. B. i. b.* 212. 1—*Trag.* 1077—*Lon.* i. 25. 2. *b.*

* The edges of the *leaves* are rolled back, especially when young: when old they are waved, but never serrated; for which reason this species is now removed to the third division, from the fourth, where it formerly stood.

† The branches are much used for making hoops and the larger sorts of baskets. It is often planted to prevent the banks of rivers from being washed away by the force of the current; and it forms a hedge very useful in keeping off winds.—Horses, cows, sheep, and goats eat it. LINNÆUS.—Putchcons and wheels for catching eels, and bird-cages are made of the twigs. *St.*

This and *S. fragilis* are the largest of the species. LINN.—A tall straight tree, bark grey, cracked. Branches numerous, upright, but expanding, grey or brown green. Male Catkins cylindrical, blunt, one and half to two inches long, four lines broad, on fruit-stalks which are half an inch long. Stamens 2. Nectaries 2, one before the stamens inversely heart-shaped, the other behind them, and oblong. Female Catkins slender, cylindrical, two inches long, three or four lines broad; on fruit-stalks near an inch in length. Leaves sharply and elegantly serrated, shining but pubescent above, white and silky underneath. Inner bark green, but in the *S. vitellina* it is yellow. HOFFMAN.

White or Common Willow. Woods, hedge-rows, and wet meadow and pasture land. T. April.*

* It loves a moist and open situation; grows quickly, and bears lopping. The wood is very white, and is therefore preferred for making milk pails and butter-firkins. It is also used for flooring, for chests and for boxes. It is light, tough and pliable.—The Rev. Mr. Stone, in the *Phil. Trans.* liii. p. 197, gives us an account of the great efficacy of the bark of this tree in curing intermitting Fevers. He gathers the bark in summer, when it is full of sap, dries it by a gentle heat, and gives a dram of it powdered every four hours between the fits. In a few obstinate cases he mixed it with one fifth part of Peruvian bark. It is remarkable that intermittents are most prevalent in wet countries; and this tree grows naturally in such situations. Whilst the Peruvian bark remained at its usual moderate price, it was hardly worth while to seek for a substitute; but now its price is more than double, and the supply from South America hardly equal to the consumption, we may expect to find it dearer and more adulterated every year. The WHITE WILLOW bark is therefore likely to become an object worth the attention of physicians, and if its success upon a more enlarged scale of practice prove equal to Mr. Stone's experiments, the world will be much indebted to that gentleman for his communication. The bark of *S. triandra* and *fragilis* have the same properties. A set of experiments should therefore be instituted to ascertain which of the species ought to be preferred.—This bark will tan leather. Horses, cows, sheep and goats eat the leaves and young shoots. The different species of it support the following insects *Papilio Antiopa*, and *Polychloros*; *Sphinx Ocellata*, *Populi*; *Phalæna Quercifolia*, *Rubi*, *Lamæstris*, *Vinula*, *Dismal Moth*, *Phalæna Salicis*, *Phalæna Bucephala*, *Monarcha*, *Ziczac*, *Cossus*, Willow red-under-wing Moth, *Phalæna Pacta*, *Citrago*, Cream-bordered Pea-green Moth, *Phalæna Salicella*, Bushy Prominent Moth, *Phalæna Pavonia*, *Libatrix*, *Psi*. Willow Beauty Moth, *Tenthredo lutea*, *Caprea*, *Rustica*; *Ichneumon Glomeratus*; *Aphis Salicis*, *Chrysomela Polita*, *Chrysomela Sericea*; *Curculio Nebulosus*; *Coccinella* 14 *Guttatus* Cicada, *Cornuta*. Large excrescences are frequently found upon the branches and leaves of Willows. these are habitations of different species of *Cynips*.—Whoever desires to shade a walk with willows, should set male plants only, or else they will soon multiply so as to form a thicket instead of a walk. The same observation holds good of the Poplar. Bees are very fond of the flowers.

- (48. S. Leaves elliptic-heart-shaped, pointed, finely notch-hir'ta. ed, downy on both sides: leaf-scales half heart-shaped, flat, toothed, nearly smooth, branches hairy.

E. bot. 1404.

A small tree. *Branches* thick, covered with close prominent horizontal hairs. *Leaves* two inches long. *Foot-stalks* longish, very hairy. *Male Catkins* cylindrical, rather slender. *Scales* somewhat acute, brown, hairy. *Nectary* blunt, papillary. *Stamens* yellow, long. *E. bot.*

Hairy Branched Willow. Observed in Norfolk by Mr. CROWE. T. April—May. E.)

(On a comparison with former editions of this work, the hitherto very obscure and confused genus of SALIX will be found to be here entirely new modelled. Several eminent botanists have recently made this tribe of plants their peculiar study, among the continental naturalists none more so than Hoffman, justly celebrated for his masterly delineations; and Prof. Willdenow, equally so for his ingenious discriminations and proposed arrangements. In addition to these, the subject has been amply elucidated in England by the industry and laborious research of Dr. Smith and the late Mr. Crowe. Their discoveries are now here inserted, and thus has the number of British willows been nearly doubled. For the better guidance of the investigator, a synoptical table has been appended, presenting at one view the several specific characters, by which an accurate comparison may the more readily be made. E.)

FRAXINUS. *Cal.* none, or with 4 divisions:
Bloss. none, or with 4 petals.

Fem. and hermaphrodite flowers. *Pist.* 1.

Caps. 2-celled, leaf-like upwards, compressed;
1 cell barren: *Seed* spear-shaped.

F. Leaflets serrated: flowers without petals.

excel'sior.

Fl. dan. 969—*E. bot.* 1692—*Hunt. Evel.* p. 150; i p. 145, ed. II—*Blackw.* 328—*Cam. epit.* 64—*Park.* 1419. 1—*Gars.* 97 and 277—*Dod.* 833—*Lob. obs.* 545. 1; ic. ii. 107. 2—*Ger. em.* 1472—*Matth.* 135—*J. B. i. b.* 174, diseased excrescences, and no leaves.

Some trees producing *flowers with stamens and pistils*, and others only *flowers with pistils*; but it often happens that the former have some with only pistils intermixed; and the reverse. *Calyx* and *Blossom* none. *Buds*, the lateral ones producing

bunches, the terminating one leaves. LINN.—*Leaves* sometimes simple. HUDSON.—In three specimens from three different trees, the first had hermaphrodite flowers, the second only male, and the third only female. ST.—*Leaves* opposite, on leaf-stalks; leaflets sitting, four or five pair, with an odd one.

Common Ash-tree. Woods and hedge-rows. T. Mar. to May.*

Var. 2. *Leaves* simple. T. H. W. in Gent. Mag. vol. LV. p. 598.

There is no mention of the place of growth of this curiosity, but the sensible and intelligent reporter could not well be deceived about it.—This is clearly a distinct variety, and my friend Dr. Bostock has supplied me with specimens of it from a plantation near Liverpool.

(Mr. Relhan names a variety with pendent branches, or *Weeping Ash*, as growing at Gamlingay, Cambridgeshire. Fl. Cantab. E.)

* It flourishes best in groves, but it grows very well in rich soil in open fields. It bears transplanting and lopping.—Horses, cows, sheep and goats eat it: but it spoils the milk of cows, so that it should not be planted in dairy farms. In the North of Lancashire they lop the tops of this tree to feed the cattle in autumn when the grass is upon the decline, the cattle peeling off the bark as food.—In a very dry summer the farmers about Cannock, Staffordshire, in default of grass fed their cows with the leaves. ST.—In Queen Elizabeth's time, the Inhabitants of *Colton* and *Hawkshead-fells* remonstrated against the number of forges in the country, because they consumed all the loppings and croppings, the sole winter food for their cattle. Penn. tour 1772. p. 29.—When growing by the water side, and of some considerable age, its branches frequently hang down somewhat in the manner of the weeping willow. The roots run near the surface, and extend themselves to a great distance, whence it is destructive to the herbage of upland pastures, but if planted on the margins of the ditches, or low boggy meadows, the roots act as underdrains, and render the ground about them firm and hard; the wood is however in this case but of little value. Mr. WOODWARD.—It will give a good though not beautiful green to cloths which have been blue. ST.—The wood hath the singular advantage of being nearly as good when young as when old. It is hard and tough, and is much used to make the tools employed in husbandry. The ashes of the wood afford very good pot-ash.—The bark is used for tanning calf-skin.—A slight infusion of it appears of a pale yellowish colour when viewed between the eye and the light; but when looked down upon or placed between the eye and an opaque object, it is blue. This blueness is destroyed by the addition of an acid, and alkalies recover it again.—An infusion of the leaves, from half an ounce to an ounce and a half, is a very good purge, and a decoction of two drams of the bark, or of six drams of the leaves, has been used to cure agues.—The seeds are acrid and bitter.—In the church yard of Lochaber in Scotland, Dr. Walker measured the trunk of a dead Ash tree which at five feet from the surface of the ground was fifty eight feet in circumference.

The Leopard Wood Moth *Phalœna Prasinana*, *Dominula*, and *Fraxini*; and *Chermes Fraxini* feed upon it.

ANTHOXANTHUM. *Cal.* Husk of 2 valves, and 1 flower: *Bloss.* husk 2 valves, tapering to a point: *Seed* 1.

A. Spike oblong-egg-shaped: florets longer than the awns, odora'tum. supported on short fruit-stalks.

Gram. pasc.—*Curt.*—*E. Bot.* 647—*Schreb.* 5—*Mill. ill.*—*Giseke.* 2—*Fl. dan.* 666—*Stilling. f.* 1. out of *bloss.*—*Mus. rust.* iv. 2. 3—*J. B.* ii. 466. 1—*Anders.*—*Barr.* 124, single spike good—*C. B.* 44. 1—*H. or viii.* 4. row 2. 25. and 7. row 3. 25—*Spike and fructification, Leers* 2. 1—*Seguier.* i. 4. 2—*Mont.* 84.

Blossom double. The outer entirely different from that of any other of the grasses, its outside covered to near the top with stiff brown hairs lying flat. The inner, which Linnæus calls the nectary, smooth, like the blossom of a *Poa*. *St.*—*Spike* not strictly so, on account of the lower florets having short fruit-stalks. *Filaments* short when the blossom first opens, afterwards very long. Before the expansion of the blossom the anthers are partly inclosed in the nectary. *Stem* with two or three short leaves; joints shining.

Spring-grass. Sweet-scented *Vernal-grass.* Meadows and pastures, common. P. May—June.*

* This is one of the earliest of our grasses, and is said by Linnæus to occasion the delightful smell of new mown hay. Mr. Curtis says that the leaves rubbed betwixt the fingers, impart a grateful odour. Boccone says, a distilled water is prepared from it, as the vehicle of some perfumes. If it be gathered whilst in blossom, lapped in a paper and carried in the pocket, it retains the smell of new mown hay for a long time. Cows, goats, sheep and horses eat it.—It abounds chiefly in wet lands, flourishing in a particular manner on peat bogs. Seems to be of little consequence to the farmer, as being neither very productive nor very palatable to cattle. The valves of the blossom adhere to the seed when it is ripe, and the jointed awn by its spiral contortions through the alternate moisture and dryness of the air, assisted by the awn and the hairs which cover the valves, which from the same cause act as so many levers, separate it from the receptacle, and lift it out of the calyx, at a time when the spike is necessarily kept in an erect situation by a throng of taller grasses surrounding them. A most curious and beautiful contrivance of Nature, without which, or some similar provision, the seed in wet seasons would be apt to vegetate in the husks, and the young plants in consequence become abortive. Mr. SWAINE.

TRIANDRIA.

CLASS III.

TRIANDRIA.

MONOGYNIA.

(1) *Flowers superior.*

VALERIA'NA. *Bloss.* 5-cleft; bulging at the base:
Seed 1.

BRYO'NIA. *Stam.* and *pistil* in separate flowers: *Bloss.*
with 5 divisions.

Fem. Style 3-cleft: *Berry* somewhat globular;
with many seeds.

RUS'CUS. *Stam.* and *pistil* in separate flowers; *Bloss.*
none: *Nectary* central, egg-shaped, open at the
top.

CRO'CUS. *Bloss.* resembling 6 petals, upright, open:
Summits rolled in a spiral; coloured.

IRIS. *Bloss.* with 6 divisions; 3 outer segments reflected:
Summits like petals.

(2) *Flowers with valves like grasses, and husk-like calyxes.*
Hermaphrodite.

NAR'DUS. *Bloss.* 2 valves: *Cal.* none: *Seed* covered.

ERIO'PHORUM. *Bloss.* none: *Cal.* chaffy scales,
tiled: *Seeds* woolly. (Hairs longer than the calyx.
HAL.)

SCIR'PUS. *Bloss.* none: *Cal.* chaffy scales, tiled: *Seed*
naked, or woolly; 3-cornered. (Hairs shorter
than the calyx. HALLER. All the scales fertile.
SCOP.)

CYPE'RUS. *Bloss.* none: *Cal.* chaffy scales, 2-rowed:
Seed naked.

SCHOE'NUS. *Bloss.* none: *Cal.* chaffy scales, in bundles:
Seed roundish: (Lower scale barren. SCOP.)

(3) *Flowers with valves like grasses and husk-like calyxes.*
Stamens and pistils in different flowers:

CA'REX. *Catkin* spike-like, tiled with husks: *Cal.* 1 leaf:
Bloss. none.

F. *Nectary* inflated; with 2 or 3 teeth: *Summits* 3, rarely 2: *Seed* 1, within the nectary.

TY'PHA. *Catkin* cylindrical: *Bloss.* none.

M. *Calyx* indistinct, 3-leaved.

F. *Catkin* under the male flowers: *Calyx* soft hairs: *Seed* 1, sitting on the hair-like down.

SPARGA'NIUM. *Catkin* roundish: *Calyx* 3 leaves: *Bloss.* none.

F. *Summit* 2-cleft: *Drupa* juiceless, with 1 or 2 seeds.

[*Juncus conglomeratus*, and *effusus*. *Salix triandra*.]

DIGYNIA.

(1) GRASSES. *Flowers scattered; 1 in each calyx.*

PA'NICUM. *Cal.* 2 valves, 2-flowered: 1 floret male, and 1 hermaphrodite.

ALOPECU'RUS. *Cal.* 2 valves: *Bloss.* 1 valve, undivided at the end: *Nectary* none.

PHLE'UM. *Cal.* 2 valves; lopped, dagger-pointed, sitting.

PHA'LARIS. *Cal.* 2 valves, keeled, equal, including the blossom.

MIL'IUM. *Cal.* 2 valves; valves bellying, rather unequal; larger than the blossom.

AGRO'STIS. *Cal.* 2 valves; valves acute, shorter than the blossom; (In all the English species longer.)

DACTYLIS. *Cal.* 2 valves: valves concave, keeled.

STIPA. *Cal.* 2 valves: *Bloss.* 2 valves; outer valve ending in an extremely long awn, jointed at its base.

LAGU'RUS. *Cal.* 2-valved, woolly: *Bloss.* with 2 terminating awns, and another fixed to the back.

[*Scirpus palustris*; and *fluitans*. *Schoenus compressus*. *Alopecurus monspeliensis* and *panicus*.]

(2) GRASSES. *Flowers scattered; 2 in each calyx.*

HOL'CUS. *Flowers*, hermaphrodite and male: *Cal.* husk 2 valves, with 1 to 3 florets.

M. *Bloss.* awned.

F. *Bloss.* awnless: *Seed* 1.

AIR'A. *Florets*, all hermaphrodite, without the rudiment of a third: *Cal.* 2 valves:

[*Holcus mollis*.]

MELICA. *Florets* all hermaphrodite: *Cal.* 2 valves: *Nectary* of 1 leaf, fleshy.

SESLE'RIA. *Involucr.* 2 leaves: *Cal.* 2 valves with 1 to 3 florets: *Bloss.* toothed at the end.

[*Avena elatior*, *flavescens* and *fatua*. *Cynosurus*. *Dactylis glomerata*.]

(3) GRASSES. *Flowers* scattered, several in each calyx.

BRIZA. *Cal.* 2 valves: *Bloss.* heart-shaped, valves blunt bellying.

PO'A. *Cal.* 2 valves: *Bloss.* egg-shaped, valves sharpish.

FESTU'CA. *Cal.* 2 valves: *Bloss.* oblong; valves sharp-pointed.

BRO'MUS. *Cal.* 2 valves: *Bloss.* oblong; outer valve with an awn fixed below the point.

AVE'NA. *Cal.* 2 valves: *Bloss.* oblong; valves with a jointed awn upon the back.

ARUN'DO. *Cal.* 2 valves: *Bloss.* awnless, woolly at the base.

[*Dactylis glomerata*. *Melica cærulea*, *Aira aquatica*.]

(4) GRASSES. *Flowers* forming a spike, on a long and slender receptacle.

TRI'TICUM. *Cal.* containing many florets.

HOR'DEUM. *Involucrum* of 6 leaves, containing 3 florets: *Flowers* simple.

ROTTBO'LLIA. *Cal.* egg-spear-shaped, flat, simple or with 2 divisions: *Florets* alternate, on a zig-zag fruit-stalk.

E'LYMUS. *Involucrum* of 4 leaves, containing 2 flowers: *Flowers* compound.

LO'LIIUM. *Involucrum* 1 leaf, containing 1 many-flowered spiket.

CYNOSU'RUS. *Cal.* 2 valves, containing many flowers: valves strap-shaped, tapering to a point, equal: *Nectary* of 2 leaves.

[*Carex*, *Alopecurus pratensis*, *alpinus*, & *agrestis*.]

TRIGYNIA.

(1) *Flowers without petals. Stamens and pistils in separate flowers.*

[*Carex.*]

AMARANTHUS. *Cal.* 3 or 5 leaves: *Bloss.* none.
F. *Capsule* 1 cell; cut round: *Seed* 1.

(2) *Flowers with blossoms; not husks.*

MON'TIA. *Bloss.* 1 petal: *Cal.* 2 leaves.

TILLÆ'A. *Bloss.* 3 or 4 petals: *Cal.* 3 or 4 leaves: *Caps.*
with 3 or 4 seeds.

POLYCAR'PON. *Bloss.* 5 petals: *Cal.* 5 leaves: *Caps.*
3 valves.

HOLO'STEUM. *Bloss.* 5 petals: *Cal.* 5 leaves: *Caps.*
opening at the top.

ENNEAGYNIA.

EMPETRUM. Male and female flowers on distinct
plants: *Cal.* with 3 divisions: *Bloss.* 3 petals.

M. *Stamens* long. F. *Berry* with 9 seeds.

MONOGYNIA.

VALERIA'NA. *Cal.* none: *Bloss.* 1 petal, superior,
bulging on one side at the base: *Seed* 1, or
else a 3-celled capsule.

(1) *Flowers with 1 stamen,*

V. *Flowers* with a tail; leaves spear-shaped, very entire. ru'bra.

E. bot. 1531—*Riv.* 3. 2—*Dod.* 351. 1—*Lob. obs.* 184. 2—*Ger.*
em. 678. 1—*Park.* 123. 11—*Ger.* 550. 1—*H. ox.* 7. 14. 15—
J. B. iii. 211. 2.

(*Stems* one to two feet high. Whole plant very smooth.
Leaves somewhat glaucous, rather succulent. Upper ones
sometimes toothed. E.)

Red Valerian. *Bloss.* red; in gardens sometimes white. *H. ox.*
ib. p. 102.

On old Walls and rubbish: Devon and Cornwall, common. HUDSON.—Sandy hills near Dartford, by the road side. Gent. Mag. 1797. p. 217.—(Old walls at Oxford, Cambridge, and Norwich, Mr. WOODWARD.—In the chalk-pits of Kent, Glastonbury Abbey. *E. Bot. E.*) P. May—Aug

calci'trapa. V. Leaves with winged clefts.

Kniph. 9. 98.

This plant seems now to merit an introduction to the British Flora, as Mr. Caley reports it to have completely naturalized itself, if not originally a native

On the walls belonging to Chelsea Hospital, shewn to Mr. Caley by Mr. Dickson. June.

(2) *Flowers with 3 stamens.*

dio'ca. V. Stameniferous and pistilliferous flowers on different plants: leaves winged, leaflets very entire: (somewhat serrated.) Stameniferous plants, with imperfect pistils.

E. bot. 628—*Curt.* 278—*Kniph.* 11—*Riv.* 2. 3. *V. minor*—*Fl. dan.* 687. 1—*Walcz.*—*Blackw.* 484—*Trag.* 62—*Math.* 41—*Ger.* 917. 3.

Pistilliferous plants with imperfect stamens.

Curt. 278—*Riv.* 2. 2. *flor. exig.*—*Fl. dan.* 687. 2—*Clus* ii. 55. 2—*Dod.* 350. 1—*Lob. obs.* 411. 3.—*Ger. em.* 1075. 3—*Park.* 123. 13—*J. B.* iii. 211. 1—*H. ox.* vii. 14. 5—*Mor. umb.* 10. d. e.

All the leaves and leaflets more or less serrated. *Root-leaves* egg-shaped. *Stem-leaves* winged, or wing-cleft; the terminating leaflet like the root-leaves. The male flowers have sometimes a short minute pistil, at others no appearance of any. Female flowers have the summit 3-cleft, and have either no stamens, or else imperfect rudiments only. The *blossoms* in these are smaller than in the other; in both they have a tinge of red. In Portugal I have observed female flowers producing perfect seeds on the same plant with the male flowers; the *stamens* in the latter varying from 1 to 4, though in general there is only 1 stamen in each flower.

Small Valerian. Moist meadows, not uncommon.—[Garlic Meadows, Erdington, Warwickshire.] P. May—June.

V. Leaves all winged and toothed.

officina'lis.

Curt.-E. bot. 698—*Woodv.* 96—*Ludw.* 99—*Kniph.* 5, the 2d figure—*Math.* 40—*Clus.* ii. 55. 1—*Dod.* 349. 2—*Lob. obs.* 411. 2—*Ger. em.* 1075. 2—*Ger.* 917. 2—*Col. phytol.* 26—*H. or.* vii. 14. 2—*Riv.* 1—*Fl. dan.* 570—*Fuch.* 8&7—*Trag.* 61.

Upper floral-leaves spear-shaped. Blossom pink.

Great Wild Valerian. Hedges, woods, and marshes; common.—[Plentiful in the Garlic Meadows near Penn's Mill, Erdington, Warwickshire.] P. June.*

Var. 2. Leaves narrower.

Kniph. 5, the 1st figure—*Riv.* 2. 1—*Garidel* 96. at p. 520.

V. officinalis. β . Fl. Brit. Dry heaths and high pastures.

V. Stem forked: leaves strap-shaped, very entire.

locus'ta.

Var. 1. Leaves entire. *Dod.* 647. 1—*Ger. em.* 310. 1—*Ger.* 242—*J. B.* iii. 323. 2.

Blossoms bluish white. Leaves and stems fringed at the edges with fine white hairs.

* It is the latter variety which is in so much repute as a medicine. The root has a strong, and not an agreeable smell; its taste is warm, bitterish, and subacid; it communicates its properties to wine, water, or spirit; but it is best in substance, and may be taken from half a dram to two drams for a dose. There is no doubt of its possessing antispasmodic virtues in an eminent degree. It is often prescribed with advantage in hysterical cases; and instances are not wanting where it appears to have removed some obstinate epilepsies. In addition to these important observations, I would add the testimony of Dr. Ruherford, who says, "Never have I seen such beneficial effects follow from the use of any other remedy, in cases of Hysteria-Epileptic as from it: indeed I have proved successful at last with it, when many other of the most celebrated and most powerful antispasmodic medicines had failed. The root should be gathered on dry, hilly grounds; what grows on wet or marshy is far inferior in virtue to the former. The best time for collecting it, is early in the season, either before, or just when the flower stem begins to push out. It should be thoroughly dried by hanging it up in a well ventilated situation, as soon as may be after collection. When in perfection each root consists of a bundle of thick plump, fibres, of a pretty bright brownish yellow colour, and very penetrating smell, nearly approaching to that of newly tanned leather. I prefer the medicine in powder to any other preparation, and give it in doses from a scruple to a dram, three times in the day. No very conspicuous changes are induced, except mitigation of the original evil."—(Dr. Swediaur advises a little mace to be mixed with the powder. E.)—It is much to be regretted that ignorance of, or inattention to, these important particulars should so frequently occasion this very valuable medicine to be used unsuccessfully, and laid aside with disgust.—In habitual costiveness it is an excellent medicine, and frequently loosens the bowels when other stronger purgatives have been tried in vain—Cows eat the leaves: sheep are not fond of them. Cats are delighted with the roots.—Rats are said to be equally fond of them, and that the rat-catchers employ the " to draw the rats together. ST.

Var. 2. Leaves pointed. *Fl. dan.* 738—*H. ox.* vii. 16. 36.

Var. 3. Leaves broad. *J. B.* iii. 323. 2. *H. ox.* vii. 16. 36.

Var. 4. Upper leaves serrated. *Curt.* 319—*E. bot.* 811—*Ger.* 242—*Lob. obs.* 412. 2—*Ger. em.* 310. 2—*Park.* 812. 3—*J. B.* iii. 324. 1—*H. ox.* vii. 16. n. 36. f. 2—*Riv.* 6. 2
Locusta minima.

Var. 5. Lower leaves jagged. RAY and LOBEL. *Lob. adv.* 319. 1.

Var. 6. Taller. Leaves entire. Seeds round, swollen. MORISON. *H. ox.* vii. 16. 37.

Lambs Lettuce. *Corn Sallad.* *Lettuce Valerian.* Common in corn fields. A. April, May, June, July.*

(pyrena'ica. V. Stamens 3: stem-leaves heart-shaped, serrated, on foot-stalks; the uppermost pinnated.

Kniph. 7—*E. bot.* 1591.

Stems 2 to 3 feet high, leafy, downy at the summit only. *Leaves* acute, sharply and unequally serrated; the radical and often the lower stem-leaves simple; the uppermost having one or two pairs of small, lanceolate leaflets. *Flowers* red or flesh-coloured, in a large, terminal corymbus. *Spur* obsolete. *Seed* furrowed, crowned with feathery rays. *E. bot.*

Heart-leaved Valerian. Discovered by Mr. G. DON about ditches and walls at Blair-Adam, Kinross-shire, in 1782, and afterwards gathered about Glasgow and Edinburgh; also found by Dr. BROWN, of the University of Glasgow, at Daldowie, six miles from thence, and in woods at Cumbernauld and Pollok. *E. bot.* *E.*)

(denta'ta. V. Flowers with 3 stamens: stem forked: leaves strap-tongue-shaped: fruit egg-shaped, pointed, unequally 3-toothed. SMITH.

E. bot. 1370—*Col. Ecphr.* t. 209. f. 2.

Very much resembles *V. locusta*, but it differs in the panicle being repeatedly forked; stem bearing solitary flowers at each divarication; the flowers of *V. locusta* are all in terminal tufts. *Fruit* egg-shaped, gibbous, smooth; or dimpled, with the end 3-toothed, the teeth very unequal; one elongated, and almost leafy.

* The young leaves in spring and autumn are eaten as sallad, and are very little inferior to young lettuce. Cattle eat it.

Oval-fruited Corn Salad. In corn-fields.—Found in Cornwall by Mr. E. FORSTER, jun. in 1799. *Fl. Brit.* Also near South End, Essex; and by Mr. HATTON, near Rowling, Wingham, Kent. *E. bot.* Fulwell Hills and Cocken, Durham. Mr. WINCH.—Corn-fields south of Esher, Surry, in abundance. Mr. J. WOODS jun.—Frequent in the corn-fields of Sussex. Mr. BORRER.—In fields near Steveley and Bishop Mouckton, &c. Yorkshire. Rev. J. DALTON. *Bot. Guide.* A. Autumn. E.)

BRYO'NIA. *Cal.* 5-toothed: *Bloss.* with 5 divisions.

Male. *Anthers* united at the base.

Fem. *Style* 3-cleft: *Berry* roundish, mostly 1-seeded.

B. Leaves hand-shaped; rough on both sides, with cal- dio'ca.
lous points: male and female flowers on different plants.

Jacq. austr. 199—*E. bot.* 439—*Sheldr.* 77—*Mill. ic.* 70—*Woodv.* 189—*Blackw.* 37—*Tourn.* 15. 1—*Dod.* 400—*Lob. obs.* 343. 3; *ic.* i. 624. 2—*Ger. em.* 869—*Gars.* 181—*Ger.* 720—*Fuchs.* 94—*J. B.* ii. 143. 2—*Cam. epit.* 987—*Park.* 178. 1—*Trag.* 820—*Lon.* i. 209. 2—*Matth.* 1283.

Leaves not properly hand-shaped, even the lower ones being truly lobed. Our plants are all dioecious, and have red berries. I have never observed that with black berries. The *Bryonia alba*, *baccis nigris* of Ray, is an addition of Dillenius. Woodward. The female flowers shew the rudiments of 5 stamens at the insertion of the segments of the blossom, equal in number to that of the anthers of the barren flowers. St. Barren and fertile plants generally growing at a great distance from each other, never having seen them growing together but once. LEERS. Flowers yellow white, with greenish streaks. Berry red. Seeds 3 to 6.

Red-berried Bryony. Wild Vine. Hedges and thickets.

P. May.*

* The root is purgative and acrid; a dram of it in substance, or half an ounce of it infused in wine, is a full dose. A cold infusion of the root in water is used externally in sciatic pains. A cataplasm of it is a most powerful discutient.—A decoction made with one pound of the fresh root is the best purge for horned cattle. The active virtues of this plant seem to give it a claim to more attention than is now bestowed upon it. Some people have a method of forming the roots into human figures, and selling them for mandrakes. Goats eat it; horses, cows, sheep, and swine refuse it. LINN. Two or three of the berries have been eaten without any observable effect. Mr. HOLLEFFAR.—(In autumn the leaves smell like musk. Dr. SMITH. E.)

RUS'CUS. Stamens and pistils mostly on different plants; *Bloss.* none: *Cal.* 6 leaves: *Nectary* central, egg-shaped, open at the top.

Male flowers, *Anthers* united.

Fem. flowers, *Berry* 3-celled: *Seeds* generally 2.

aculeatus. *R.* Leaves bearing the flowers on the upper surface, naked.

E. bot. 560—*Woodv.* 237—*Kniph.* 1—*Sheldr.* 14—*Mill, ill.*—*Trag.* 919—*Lon.* i. 78. 2—*Blackw.* 155—*Cam. epit.* 935—*Park.* 253—*Gars.* 504—*Matth.* 1214—*J. B.* i. a. 579—*Dod.* 744—*Lob. obs.* 362. i; *ic.* i. 637. 2—*Ger. em.* 907—*H. ox.* xiii. 5. row 2. 1—*Ger.* 759.

Flower not properly growing out of the leaf, but on a fruit-stalk from the bosom of the leaf, which is immersed beneath the outer coat, from whence it may with ease be dissected. **WOODWARD.** *Stem* tough, woody, branched, scored. *Leaves* egg-spear-shaped, pointed. *Blossoms* yellowish green. *Berries* red. **Mr. STACKHOUSE** remarks, that the 3 outer calyx leaves are larger and rigid, the 3 inner smaller; these he considers as petals, and he found a male flower fallen from the plant, which had only 3 leaves corresponding with those of the calyx.

Knee Holly. *Butchers Broom.* *Prickly Pettigree.* Woods, thickets, and hedges. [Hethel Woods near Norwich. **Mr. CROWE.**—Heath near Lowestoft. **Mr. WOODWARD.**—New Forest near Stony Cross.] *S. March*—April.*

(Var. 1. Branches wide-apart; leaves elliptical, on both sides tapering.)

Ruscus aculeatus β . *Fl. Brit.* *R. laxus.* *Lin. Trans.* v. 3. p. 334. **Dr. Smith** after having examined many native specimens communicated by **Mr. Caley**, does not think this plant sufficiently distinct to be named as a new species.

At Stoke, near Gosport, plentifully. **Mr. CALEY**, *Fl. Brit.* (E.)

CRO'CUS. *Bloss.* with 6 equal divisions: *Summits* coiled.

* In Italy it is made into besoms, and the butchers use them to sweep their blocks. Huxters place the boughs round their bacon and cheese to defend them from the mice, for they cannot make their way through the prickly leaves. It will not bear the winters of Sweden.

C. Sheath 1 valve, rising from the root: tube of the blossom very long: summit in 3 deep strap-shaped segments hanging out of the blossom. *E. Bot.* *sativus.*

Var. 1. *officinalis*. Leaves narrower, rolled in at the edges. Flowers in autumn.

E. bot. 343—*Matth.* 69. 70—*Mill.* 111—*Trag.* 763—*Fuchs.* 441—*J. B.* ii. 637—*Walc.*—*Sheldr.* (*Saffron.*)—*Tourn.* 184—*Ger.* 123. 1. 2—*Dod.* 213—*Lob.* obs. 68—*Ger.* 151—*H. or.* iv. 2. 1—*Blackw.* 144. 1—*Park.* par. 167.

Blossoms purplish blue; filaments purple; summits deep orange. Germen cylindrical.

Common or autumnal Saffron. (*Crocus sativus*. Fl. Brit. E.)

Crocus autumnalis. *E. bot.* *Crocus officinalis sativus*. HUDS. About Cambridge, and Saffron Walden, Essex. (Not cultivated there in 1796, nor could I find any traces of it. Mr. TURNER. E.)—In a meadow near the copper mills, Derby. Mr. WHATELY.—Common in meadows about Manchester. Mr. CALEY.—(Breadfall and Duffield, near the banks of the Derwent. PILKINGTON. E.) P. Aug.—Sept.*

C. Two leaves broader, with flat edges. Flowers in the spring. Summit 3 short wedge-shaped lobes, inclosed within the blossom. *E. Bot.* 1. *ver'nus.*

Jacq. austr. app. 36—*E. bot.* 344—*Ger. em.* 153. 1—*Clus.* i. 205. 2—*Ger. em.* 156. 12—*Ger.* 125. 1.

Inserted on the authority of Mr. Hudson, but he has given no place of growth. It may however be found in almost every garden, both with blue and yellow blossoms in the month of March; (and we are now enabled to add several satisfactory stations. E.)

Spring Saffron, or Crocus. (*Crocus sativus* β. WITH. ED. 2. E.) *Crocus officinalis sylvestris*. HUDS.—Meadows near Nottingham. *E. bot.*—(Meadows near Gorton, 4 miles from Stockport, Cheshire. Mr. G. HOLME.—Covers a field by the side of Mendham long lane, by Harleston, and has grown there for a great number of years. Rev. H. TILNEY.—The osier-ground, at Beccles, Suffolk, but sparingly. Rev. G. CRABBE.—Battersea Mill. MARTYN, in *Bot. Guide*. P. March. E.)

* The summits of the pistils of the *Crocus officinalis sativus*, carefully collected, and moderately dried, are the saffron of the shops. That collected in England is preferred to all other. It affords a beautiful colour to water, wine, or spirit, and gives out the whole of its virtues to them. It hath been holden in high repute as a cordial; but modern practice pays no great attention to it, since it has been found to produce no sensible effect, even when given in doses greatly larger than those generally prescribed.

nudiflorus. C. Tube of the blossom very long, leafless. Summit in 3 deeply lacinated segments, enclosed within the blossom. *E. bot.*

E. bot. 491.

This new species of *Crocus* appears first to have been clearly ascertained by the Rev. Mr. BECHER, of Southwell, Nottinghamshire, to belong to the British Flora, and by whom it was found in great profusion between Nottingham Castle and the river Trent, growing there intermixed with *C. vernus*. It is distinguished from either of the preceding species by the segments of the summit being deeply subdivided into from 7 to 12, generally 9, narrow linear lobes. The flowers, perfectly destitute of leaves, are in perfection early in October, and fade before the end of that month. The leaves do not begin to appear till some time in December, and are more erect than those of the other species, their margins scarcely revolute, colour paler, and their ends not decayed. *E. bot.*

(*Naked-flowering Crocus*, Fl. Brit. It has since been discovered by Mr. SHEPHERD, Curator of the Liverpool Botanic Garden, one and a half mile from Liverpool on the road to Allerton,—Pastures near Halifax. Rev. W. WOOD. *Bot. Guide*. P. Oct. E.)

I' RIS. Bloss. with 6 divisions, unequal, every other segment bent back as if jointed: *Summits* petal-like, 2-lipped, edges at the base turned in.

Xi'phium. I. Leaves channeled, awl-shaped: stem 2-flowered.

H. ox iv. 7. 10—*Clus.* i. 212. 2—*Ger.* 93. 3—*Ger. em.* 101. 1—*J. B.* ii. 705—*Clus.* i. 214—*Park.* 257. 8—*Ger. em.* 102. 6—*J. B.* ii. 704. 1—*Swert.* i. 35. 5—*In fruit*, *Clus.* i. 213—*Ger. em.* 101. 2—*Ger.* 93. 4.

Sometimes the stem produces only a single flower. Blossom purplish blue.

Bulbous-rooted flower de luce, or Flag.

This plant has long been an ornament to gardens; but Dr. Nash, in his History of Worcestershire, informs us, that it has lately been discovered by the Duchess Dowager of Portland, by the river side near Fladbury, and in other parts of that county.

P.

I. Every other segment of the blossom smaller than the pseudocorus.
summit.

Curt. 197—*E. bot.* 578—*Blackw.* 261—*Kniph.* 3—*Fl. dan.* 494—*Woodv.* 40—*Dod.* 248. 1—*Lob. obs.* 31. 1—*Ger. em.* 50. 2—*Park.* 1219—*H. ox.* iv. 6. 11.

Petals, the three outer ones toothed on each side next to the stamens. *Germen* with edges, furrowed. *LINN.* *Valves* of the calyx spear-shaped. *Petals*, the three outer and larger ones streaked with purple lines. *Summits* cut into fringed segments at the top. *Flowers* three together at the top of the stem: the two outer flowers having each one sheathing valve, and the middle flower two. I should be tempted to describe this flower as having nine *petals*, and three *styles*; which are connected longitudinally to the three innermost petals. *Blossom* yellow; (varying to a straw-colour, and sometimes white. *RAY. E.*)

Flower de luce. *Water Flag.* *Yellow Flag.* Banks of rivers, marshes, and wet meadows. P. July.*

I. Stem with one angle. *foetidis'sima.*

E. bot. 596—*Dod.* 247. 2—*Lob. obs.* 37. 1—*Ger. em.* 60—*Park.* 256. 5—*C. B. th.* 560—*J. B. ii.* 731. 2—*H. ox.* iv. 5. 2—*Fuchs.* 794—*Matth.* 991—*Trag.* 904—*J. B. ii.* 731. 1—*Blackw.* 158—*Ger.* 53. 1—*C. B. th.* 564.

Stem cylindrical, but angular on one side; as long as the *leaves* which cover it, and have a very foetid smell. *Germen* 3-cornered, the corners furrowed. *Blossom* of a disagreeable

* The juice of the fresh root is very acrid, and has been found to produce plentiful evacuations from the bowels, after other powerful means had failed. *Edin. Med. Ess.* vol. v. art. 8. It may be given for this purpose in doses of 80 drops, every hour or two; but the degree of its acrimony is so uncertain, that it can hardly ever come into general use. In some cases it proves diuretic. The fresh roots have been mixed with the food of swine bitten by a mad dog, and they escaped the disease, when others bitten by the same dog died raving mad. The root loses most of its acrimony by drying. Goats eat the leaves when fresh; but cows, horses, and swine refuse them: cows will eat them when dry. The roots are used in the island of Jura to dye black. *Pennant's Tour*, 1772, p. 214.—(Mr. W. Skrimshire has discovered that the seeds afford an excellent substitute for foreign coffee, being roasted in the same manner they very much resemble it in colour and flavour, but have something more of a saccharine odour, approaching to that of extract of liquorice. When carefully prepared they possess much more of the aroma of Coffee than is to be found in any of the leguminous or gramineous seeds that have been treated in the same way; coffee made of these seeds is extremely wholesome and nutritious in proportion of half an ounce or an ounce to a pint of boiling water. *Month. Mag.* v. 27. The leaves smell like rancid bacon, but not so powerfully as do those of the following species. E)

purplish ash colour; not smelling in the night time. Claws of the *outer petals* wrinkled and plaited on the undersurface. *Inner petals* larger than the summit, expanding. LINN.

Var. 2. Leaves striped.

Stinking Gladdon, or Gladwyn. Stinking Flag. Iris foetida. With. Ed. 4. Near Hornsey; and about Charlton Wood, Kent. HUDS.—Near Braintree, Essex.—Near Pershore, Worcestershire. NASH.—Bath Hills; Ditchingham, Norfolk. WOODWARD.—(Woods and hedges about the farm house of Pen ucha'r Green, in the parish of Henllan, Denbighshire. Mr. GRIFFITH, E.) In all the S. W. counties very common, particularly about Teignmouth (and the Isle of Wight,) on hedge banks and sloping ground (Priestholm Island. Rev. H. DAVIES.—Chalk hill near Hedsor Wharf, Bucks. Mr. GOTOBED.—In a grove on the right hand side the road leading from Cambridge to Hinton Church, Teversham, Fulborn, Triplow. RELHAN.—In the wood at Purfleet, Essex. Mr. E. FORSTER, jun.—Frequent near Dover. DILLWYN.—Common about Hastings. Mr. J. WOODS, jun.—Copices at Milford, near Salisbury. Dr. MATON.—Hedges at Raskelf near Easingwold. Rev. Archdeacon PIERSON.—Bank at Little Nunwick, by Ripon. Mr. BRUNTON. *Bot. Guide.* E.) P. June—July.*

NARDUS. *Cal.* none: *Bloss.* 2 valves: *Nectary* none.

stric'ta.

N. Spike slender, straight; the florets pointing in one direction.

E. bot. 290—*Fl. dan.* 1022—*Schreb.* 7—*C. B. th.* 70—*H. ox.* viii. 7. 8—*J. B.* ii. 513. 2—*Lob. ic.* 90. 1—*Ger. em.* 1631. 3—*Park.* 1199. 5—6—7—*Spike. &c.*—*Leers* 1. 7—*Scheuch.* 2. 10—*Mont.* 31.

Straw with a single joint near its bottom, and one short bristle-like leaf. *Root-leaves* long, thread-shaped. LEERS. *Spike* yellowish, white, or violet coloured. *Florets* all pointing to one side.

* The juice of the root, both of this and the preceding species, is sometimes used to excite sneezing; but it is an unsafe practice. Violent convulsions have sometimes been the consequence. (Dr. Swediaur attributes several powerful qualities to this root, and particularly specifies its utility in hysteria, scrophula, and dropsy. E.) Neither horses, sheep, nor cows eat it. The scarlet seeds displayed by the opening capsules give the hedge banks a gay appearance in autumn. The leaves when bruised smell like rancid bacon.

Small Matweed. Heath Matweed, or Matgrass. Heaths and marshes. [Heaths in Norfolk, frequent. Mr. WOODWARD.—Malvern Chase, Worcestershire. Mr. BALLARD.—Birmingham Heath. St.—Lilleshall pool dam, Shropshire. P. June—Aug.*

ERIOPHORUM. *Husks* like chaff, tiled on every side: *Bloss.* none: *Seeds* encompassed by very long wool-like hairs.

E. Straw cylindrical, sheathed: spike skinny. vagina'tum.

Dicks. h. s.—Curt. 219—E. bot. 873—Fl. dan. 236—Scheuch. prod. and app. 7. 1—J. B. ii. 514. 2—C. B. pr. 23; th. 188—Park. 1272. 5—H. or. viii. 9, row 3, 6. Gr. junceum ib. 6. Gr. juncoid.—Park. 1272. 2—Ib. 1—Park. 1189. 1—Spike and parts of fructif. Scheuch. 7. 1–3. Mont. I. K.

Root-leaves imperfectly 3-cornered, sharp, with two of the sides scored. *Stem-leaves* cylindrical. *Sheaths* inclosing the straw; the uppermost purple at the base. *Straw* twice as long as the leaves; scored, cylindrical, but flat on one side. *Spike* egg-shaped, tiled. *Scales* skinny, brown: the lower ones barren; the upper ones bearing woolly seeds. LINN. *Spike* single. *Straw* bluntly 3-cornered.

Hares-tail Rush. Moss Crops. Single-headed Cotton-grass. Bogs. [Near Lynn. Mr. PITCHFORD.—Very frequent in all the northern Counties. Mr. WOODWARD.—(Peat Bogs at Llyn-aled, Denbighshire, and on all the mountains of North Wales. Mr. GRIFFITH. E.)—Ancott bog, near Salop. Mr. AIKIN.—Birmingham Heath, in the marshy valley crossed by the foot road to Winson Green. In Cornwall on wet moors, not uncommon.] (Bogs near the road leading from Clovelly to Kilkhampton, Devon, and Dartmoor, on Bawsey Bottom, near Llyn. Mr. PITCHFORD.—Marshes at Hedington near Oxford. Dr. MATON. On Leath Hill Common near Dorking. Mr. J. WOODS, jun. On Amberley Wild-brooks, Sussex. Mr. BORRER; and on Broadwater Common near Tunbridge Wells. Mr. J. WOODS, jun. On Glastonbury and Burtle turf moors, Somersetshire. *Bot. Guide. E.)* P. Feb.—April.†

* This grass is stiff and hard to the touch, but being generally short, it eludes the stroke of the scythe, and takes off its edge, which makes it disliked by mowers. Goats and horses eat it. Cows and sheep are not fond of it. Crows stock it up, for the sake of the larva of insects which they find at the root.

† (Sheep are said to be very fond of it, whence it is called Moss Crop in some countries. CURTIS. E.)

polystachion. E. Straws cylindrical; leaves flat: spikes on fruit-stalks.

Dicks. h. s.—E. bot. 563—Vaill. 16. 2—Leers 1. 5.

Spike smaller and more compact than in the next species; and the leaves being flat as well as shorter, the plants may be distinguished though not in flower.

Eriophorum polystachion, β . LINN.

First particularly distinguished from the next, which is our more common species, by Mr. Dickson. Bogs in Northamptonshire; near Dunstable; in Yorkshire, Cumberland, and very commonly in Scotland. *Dicks. in Linn. Tr. ii. 289.* [In a bog at the back of Invercauld house, and in various parts of the Highlands, but by no means a common plant. Mr. BROWN.] (In the Peat bogs of Denbighshire, and Turbaries near Llyn Idwell, North Wales. Mr. BINGLEY.—Near Baumaris. Rev. H. DAVIES.—Bog at Hilton Castle, Durham. Mr. WINCH.—Whey Sike, Teesdale Forest. Rev. J. HARRIMAN. Alderbury Common, Wiltshire. Dr. MATON. *Bot. Guide. E.*)

P. May—June.

augustifolium.

E. Straws cylindrical: leaves channelled and 3-cornered: spikes on fruit-stalks.

Dicks. h. s.—E. bot. 564—Curt. 222—Vaill. 16. 1—H. ox. viii. 9. row 3. 1—Ger. 27. 1—C. B. th. 61—Trag. 683—Gurid. 44—Dod. 562. 2—Ger. em. 29—Barr. 12—J. B. ii. 514. 1—Parts of fructif. Mont. (Linagrost.) K. L. I.*

Spikes, generally three upon each straw, which rises out of a sheath, formed by three brownish leaves, the outermost of which is much longer than the rest, and green at the end. *Leaves* sheathing the stem; semi-cylindrical, and hollow at the lower part, but solid and 3-cornered towards the top: tapering gradually to a point. In its young state, before the hairs of the seeds grow out, it may be mistaken for a *Scirpus*. Mr. CALEY tells me he has observed the Spikes to be polygamous; and Sir THOMAS FRANKLAND has sometimes found this plant *dioicous*, in Lord Fauconberg's Park, Yorkshire.

Cotton-grass. Moor-grass. Moss-crops. Many-headed Cotton-grass. E. polystachion, Huds. Curt. Lightf. Bot. arr. ed. i. and ii. Marshes and bogs, not uncommon. (Northshore, near Bootle, Formby, &c. in the neighbourhood of Liverpool. Dr. BOSTOCK. E.)—[Birmingham heath,—Aqualate Meer, near Newport, Shropshire, covering several acres.] P. June.*

* This plant is useful in the Isle of Skye, to support cattle in the earlier part of the spring, before the other grasses are sufficiently grown. *Pennant's Tour, 1774, p. 308.* Poor people stuff their pillows with the down, and make wicks of candles with it, but it becomes brittle when quite dry.

E. Straws naked, 3-cornered: spike shorter than the alpi'nun.
down.

E. bot. 311—*Fl. dan.* 620—*Scheuchz.* 7. 4—*App.* 8.

Six or eight inches high, slender, 3-cornered, jointless; rough when stroked downwards. *Sheaths* at the base, scored, pointed. *Spike* small, downy. SCHEUCHZ.

[Found in the summer of 1791, on the moss of Restenet, three miles E. of Forfar, Angussh. Scotland, by Mr. BROWN in company with Mr. DON.] P. June.

SCIRPUS. *Husks* chaff-like tiled on every side:
Bloss. none: *Seed* 1, 3-cornered, often wool-
ly: hairs shorter than the spike.

(1) *Spike* single.

S. Straw cylindrical, naked: spike nearly egg-shaped, palus'tris.
terminating.

E. bot. 131—*Fl. dan.* 273—*Lob. obs.* 44. 1—*Ger. em.* 1631. 7—*Park.* 1196. 1. and 2—*H. or.* viii. 10. 32, and row 3, fig. between 33 and 34—*Spike* only, *Scheuch.* 7. 17.—*Dissected flower and a spike, Leers* 1. 3.

Straws leafless, but sheathed at the base. Leers says there are always two summits, never three. (This important remark is confirmed by Mr. Brunton and Mr. Dawson Turner, who further observe that in *S. multicaulis* the stigmas are uniformly three. *Bot. Guide.* p. 667. E.) but in *E. bot.* three are described and represented. *Seed* surrounded at the base by four white bristles, shorter than the calyx. LEERS. Authors have attempted to point out two varieties, but there seems to me no other difference than the size and height, which varies from six inches to two feet or more.

Club-rush. Aglet-headed Rush: Common Club-grass. Banks of rivers, ponds, and ditches frequent. [Near Stafford, and Severn Stoke, Worcestershire. Sr.] P. July.*

(S. Stem round, sheathed at the base: spike egg-shaped, multicaulis:
terminal: glumes obtuse, all equal: root fibrous.

E. bot. 1187.

* Swine devour the roots greedily when fresh, but will not touch them when dry. Goats, horses, and hogs eat it. Cows and sheep refuse it.

Root with long fibres, but not creeping. *Stems* numerous, growing in a tuft, eight or ten inches high, undivided, round, smooth, leafless, closely invested at the base, with a single or double tight abrupt sheath of a purplish colour, but without the numerous intermediate scales of *S. cæspitosus*. *Leaves* none. *Spike* upright, egg-shaped or elliptic, rusty brown, naked, many flowered. *Glumes* all of equal size, tiled, blunt, blackish purple or brown. *Keel* green, one or two of the lower flowers are often viviparous. *Seeds* brown, triangular, surrounded with a few short rough bristles. *Fl. Brit. and E. bot.* *Stigmas* regularly three; whereas in *S. palustris* there is much reason to believe they never exceed two.

Many-stalked Club-rush. First discovered in Scotland, by Mr. MACKAY, who found it in Skye; and in England by Mr. E. FORTSER. It is by no means an uncommon plant, but has probably been hitherto confounded with *S. palustris*. Dr. Smith states that he has received it from the turf, bogs and wet commons of Cornwall, Sussex, Yorkshire, and Norfolk.—Holyhead mountain, Anglesea. Rev. H. DAVIES.—Priestwick Carr, Northumberland. Mr. WINCH.—Moor near Brimham Rocks, Haughton Moor near Newbold, and Sawley Moor, Yorkshire. Mr. BRUNTON. in *Bot. Guide*. P. July.—E.)

cæspito'sus. *S.* Straw scored, naked: spike 2-valved, terminating, as long as the involucre: roots separated by scales.

E. bot. 1029—*Scheuch.* 7. 18—*J. B.* ii. 523. 2—*C. B. th.* 79—*Fl. dan.* 167—*H. ox.* 8. 10. row 3. 35—*Pluk.* 40. 6.

From two to six inches high. *Sheaths* at the base of the straw, terminating in short leaves. *Seeds* with hairs at the base. *St.* Length of the spike and of its lower scales, (called in the specific character a calyx or involucre,) extremely uncertain, sometimes this involucre is as long as the spike, sometimes not half so long, and in other instances considerably longer, the point of the outer valve being lengthened into a kind of awn. This species is therefore best distinguished from the preceding by the green and leaf-like appearance of the upper sheaths at the bottom of the straw.

Dwarf Club-rush. Deers' Hair. Scaly-stalked Club-rush. [Bogs in the New Forest.] Turf bogs and dry heaths.

P. June—July.

pauciflorus. *S.* Straw scored, naked: spike terminating; with few flowers; longer than the valves of the calyx. LIGHT-FOOT and HALLER.

Scheuch. 7. 19—*E. bot.* 1122.—*Ger. cm.* 21. 3—*Park.* 1270. 7.

Root-leaves as high, or higher than the stalks, which they resemble. *Stalks* and *leaves* sheathed. *Sheaths* lopped, and not ending in a projecting point as in the *S. cæspitosus*. *Calyx*, valves 2, oval, not ending in a rigid point. HALLER. LIGHTFOOT. But Scheuchzer describes them as ending in a sharp point.—*Scirpus Bæothryon*, Ehrh. and Gmelin, bears a character in all points corresponding with this plant, but no figure is referred to. Hudson supposed it might be a variety of *Scirpus cæspitosus*, but does not assign his reasons.—This plant likewise agrees with the *Sc. cæspitosus* in the upper sheaths of the stalk, assuming the green appearance of leaves; but we insert an important observation of Mr. Woodward, that the *Sc. pauciflorus* grows scattered, never *cæspitose* or forming a turf. Since writing the above I have been favoured with the following additional remarks from Mr. Woodward, in support of his opinion, that the plants in question are really distinct species: “The *S. pauciflorus* is very different in its habits from the *cæspitosus*, for besides its growing single and not *cæspitose*, the stems generally decline and scatter from each other, instead of being upright and close together; the stems are also more rigid, of shorter growth, and the flowers fewer, as the name expresses.”—Dr. Smith also judges this plant to be perfectly distinct from the *S. cæspitosus*, with which Linnæus and Hudson had confounded it; particularly in being almost wholly destitute of scales of at the roots, in the sheaths being straight, blunt, and lopped, in the lower glumes being shorter than the spike, and in having root-leaves. Dr. Smith however suggests the idea, that what are here called leaves, ought perhaps rather to be considered as barren straws. *Fl. Brit.*

Chocolate-headed Club-rush. Highland mountains. [Ellingham Fens, Norfolk. Mr. WOODWARD.]—(On Poringland heath, near Norwich. Mr. CROWE.—In ditches near Bungay. Mr. WOODWARD.—Prestwick Carr, Northumberland. Mr. WINCH. *Bot. Guide*.—Hinton and Foulmire Moors, Cambridgeshire. RELHAN.—Bog on Epping Forest, between Walthamstow and Wanstead. Mr. E. FORSTER, jun. *Bot. Guide*.—Houghton Moor, near Newbold, and marshes near Beverley. TEESDALE. E.) P. August.

S. Straw cylindrical, naked, bristle-like: spike egg-shaped, acicularis.
2-valved: seeds naked. See *Cyperus acicularis*.

S. Straws cylindrical, naked, alternate: stem leafy and fluitans.
limber.

Dicks. h. s.—E. bot. 216—F. dan. 1082—H. ox. viii. 10. 31
—Scheuch. 7. 20.

Stem branched, limber, floating, leafy, *Branches* leafy, *Leaves* alternate. *Fruit-stalks* produced in plenty towards the end of the stem and branches, cylindrical, alternate, about three inches long, with one leaf sheathing the lower part. Mr. ROBSON. *Spikes* short, of few flowers. *Summits* only 2. Dr. SMITH.—Plant from two to eight inches in length.

Floating Club-rush or Club-grass. Shallow waters on heaths and in ditches. [Charley forest, in bogs and old gravel pits. PULTENEY.—In small rills of water about Newton Cartmel. Mr. HALL.—Salesmoor, near Manchester. Mr. ROBSON.]—(On Putney and Hounslow Heaths. HUDSON.—Newton bogs, Norwich. E.) P, July.

(2) *Spikes several: straw cylindrical.*

Iacus'tris.

S. Straw cylindrical, naked: spikes several, egg-shaped, on fruit-stalks, terminating. LINN. Calyx fringed, 3-cleft, middle segment awl-shaped. ST.

Var. 1. *Involucrum* somewhat membranaceous, shorter than the panicle. *Spikes* rather oblong. HUDSON.

E. bot. 666—*Fl. dan.* 1142—*H. ox.* viii. 10. 1—*Ger.* 31. 3—*C. B. th.* 178—*J. B.* ii. 522. 2—*Dod.* 605. 1—*Ger. em.* 35. 3—*Park.* 1191. 1—*Leaves, Trag.* 674. 1.

Var. 2. *Involucrum* nearly the length of the panicle: *Spikes* egg-shaped. HUDSON,

Ger. 31. 4—*C. B. th.* 181.

Spikes dark chesnut, or dark brown with a tinge of red. SCHEUCH. *Calyx* dark brownish purple above; below whitish with purple spots. ST.

Lesser Bull-rush, S. lacustris β. Fl. Brit.

Var. 3. One side of the straw flattish. HUDSON.

E. bot. 1983.—*H. ox.* viii. 10. 2.

(*Stigmas* only 2. *E. bot.* E.) *Scales* of the spikes cloven, and a little pointed substance at the bottom of the cleft. *Ger-men* with five or six hairs at the base. *Seeds* brown. SCOP. *Spikes* chesnut colour.

Bull-rush. Club-grass. (S. lacustris γ. Fl. Brit. *S. carinatus.* *E. bot.* where it is inserted as a distinct species on the suggestion of Mr. E. FORSTER, who found it above Westminster Bridge. E.) *Rivers, pools, fens, common.* [P. July—Aug.*

* When fodder is exhausted, cattle will live upon it. Cottages are sometimes thatched, and pack-saddles stuffed with it. Bottoms of chairs are very commonly made of this rush. If cut at one year old it makes the

S. Straw cylindrical, naked: spikes nearly globular, closely compacted; on fruit-stalks: involucre 2-leaved, unequal, sharp pointed. *Holoschœnus*.

E. bot. 1612—*H. ox.* viii. 10. 17—*Mich.* 31. (*Scirpoides*)—*Scheuch.* 8. 2-5—*Pluk.* 40. 4—*C. B.* 174—*Park.* 1194. 4 (not *Fl. dan.* 454.)

(*Stems* two or three feet high. *Leaves* radical, linear, smooth, marked with a white channel on their upper side. *E.*) The globular heads larger than large peas, supported on fruit-stalks of various lengths from the side of the stem, distinguish this at first sight from every other species. (Varies greatly in luxuriance of growth. *E.*)

Round-headed Club-grass. Sea coast. Branton Boroughs, Devonshire. Rev. Dr. GOODENOUGH, (covering nearly half an acre of ground.—On the shores of Hampshire, and near the sea side below Watchet, Somersetshire. *Bot. Guide.* *E.*)

Var. 2. Straw cylindrical, naked; head lateral, compact; floral-leaf bent back.

Jacq. austr. 448—*Barr.* 255. 3—*Head*; *Scheuch.* 8. 6—*Pluk.* 40. 5.

Straws the thickness of a thread. LINN. Frequently many headed. *Scales* egg-shaped, sharp, concave. JACQ. (The plant thus described in With. ed. 4. the *S. romanus* of Linn. Dr. Smith has fully ascertained to be only a small slender variety of *S. Holoschœnus*. It appears that Linnæus never had the opportunity of full investigation on this subject. *E.*)

Moist meadows. Marshy places near Throgmorton, Worcestershire, HUDSON and NASH. P. July.

S. Straw naked, bristle-like: spikes lateral, mostly single, sitting or on fruit-stalks: terminating spike sitting. *seta'ceus*.

E. bot. 1693—*Fl. dan.* 311—*Leers* 1. 6—*Rottb.* 15. 5. and 6—*H. ox.* viii. 10. 23—*Park.* 1270. 10 and 9.

Leaves like bristles. *Straws* naked, numerous; as thick as the leaves but twice as long. *Spike* 1, rarely 2, terminating, egg-shaped. *Lowermost scale* awl-shaped, pale, as long as the spike. LINN. *Spikes* 1 to 4. *Seeds* naked. ST. Plant from 2 to 6 inches high. *Spikes* greenish brown, with a rosy tinge.

Least Rush. *Small Plymouth Rush-grass.* *Least-Club-grass.* Wet sandy ground. [Bogs about Woodhouse, and on Charley-forest. PULTENEY.] A. July—Aug.

fine bottoms. Coarse bottoms are made of it at two years old; and such as are still older, mixed with the leaves of the *Iris pseud-acorus*, make the coarsest bottoms of all. Mats are likewise made, either of the *Scirp. lacustris* alone, or mixed with the aforesaid leaves.—Goats and swine eat it. Cows and sheep refuse it.

(3) *Straw 3-cornered: spikes in panicles: panicle naked.*

tri'queter. *S. Straw 3-cornered, naked: spikes lateral, egg-shaped, blunt, nearly sitting or on fruit-stalks: sharp point of the straw upright.*

E. bot. 1694—*Pluk.* 40. 2.

(*Stems a yard high, angles more or less acute. Spikes generally accompanied by a small floral-leaf; sometimes quite sessile. E. bot. E.*) Sides of the straw flat, not hollowed out. LINN. In some specimens the spikes are nearly sitting, in others part of them have fruit-stalks of different lengths. In the *S. mucronatus* of Linnæus (not yet found in Britain) the sides of the triangular straw are not flat, but hollowed, and the spikes are always sitting. The height of the pointed top of the straw above the clusters of florets is very different in different specimens of each species, so that nothing can be determined from that circumstance. (The minute investigations of Dr. Roth confirm these remarks of the author, but he adds, "this species has not a triangular culm with sharp edges, but one of three sides with blunt edges." *Annals of Botany*, v. 1. E.)

Triangular Club-rush. Pointed or 3-square Club-rush. Sea-shore; banks of large rivers, as of the Thames, both above and below London.—(Acle Dam, between Norwich and Yarmouth. Mr. WOODWARD. E.) P. July—Aug.

(4) *Straw 3-cornered: spikes in panicles: panicle leafy.*

sylvat'icus. *S. Straw 3-cornered, leafy: umbel leafy: fruit-stalks naked, treble compound: spikes crowded. LINN. Scales entire. Sr.*

Kniph. 12—*E. bot.* 919—*C. B. th.* 90—*H. ox.* viii. 11. 15—*J. B.* ii. 504. 2—*Fl. dan.* 307—*Lob. adv.* 38. 1—*Ger. em.* 30. 5—*Park.* 1171. 2—*Branch of the umbel, Leers.* 1. 4.

Calyx entire. ST. Leaves very broad, keeled; with a blunt, coloured projection at the end: the edges and keel rough with strong hairs. Seeds girt with 4 or 6 short hairs rising from their base. LEERS. (Spikes terminal, most of them clustered, small, ovate. Stamens slender. Style deeply three-cleft. E. bot. E.)

Millet Cyperus grass. Wood Club-grass. Wet shady places. Ditchingham, Norfolk. Mr. STONE.—Near York. Mr. AIKIN.—A little east of Breakinbridge over the South Esk, on the south side. Mr. BROWN.—About Kendal. Mr. GOUGH.—(Between Hampstead and Highgate near London. Mr. GROULT, in *E. bot.*—Garn Dingle, Denbighshire; between the cave and

the river that runs from Henllan Mill. Mr. GRIFFITH. E.)—
Edgbaston Pool, near Birmingham, plentiful. P. July.

S. Straw 3-cornered: panicle close, and leafy: scales of the
spiket 3-cleft, the middle segment awl-shaped. maritimus.

Var. 1. *Round-rooted.* C. B. pr. 24. th. 215—Park. 1263. 4—
H. ox. viii. 11. 9—*Panicle, Scheuch.* 9. 9.

Var. 2. *Spreading.* Curt. 284—E. bot. 542—Ger. 20. 7—C. B.
th. 86—Ger. em. 22. 7—Park. 1266. 6. *right-hand plant*—H.
ox. viii. 11. 25—J. B. ii. 495. 1. *left hand plant*—Dod. 338.
1—Lob. obs. 39. 2—*Branch of the panicle, Scheuch.* 9. 7
and 8.

Var. 3. *Tufted.* Fl. dan. 937—Ger. em. 22. 7—Park. 1266. 6.
left-hand plant—J. B. ii. 495. 1. *right hand plant.*

Leaves stiff, and sharp at the edges. Little spikes much
longer. LINN. *Panicle* sometimes branched, sometimes simple.
HUDSON; as in the fig. on the left hand in Park. and that on the
right in J. B. ST. *Spikes* oblong; colour of rusty iron. *Seeds*
the same colour, egg-shaped, compressed, tapering to a point;
2 or 3 whitish, lopped, chaffy substances, shorter than the style,
rise from the base of the germen. In some specimens the *spikes*
are sitting, and the *stem-leaves* shorter than the straw; in others
they are longer; and in some the spikes are either sitting, or on
fruit-stalks. SCOP.

Salt-marsh Club-grass. Sea-coast. [Salt Marshes near
Yarmouth. Mr. WOODWARD.—Shirley Wych, near Stafford. ST.
—Between Stockton and Porterack, by the river Tees. Mr.
ROBSON.]—(Crosby, near Liverpool, Dr. BOSTOCK. E.)

P. Aug.*

CYPERUS. *Husks* chaff-like; tiled in 2 rows:
Bloss. none: *Seed* 1; naked.

(1) *Straw cylindrical.*

C. Straw naked: spikes egg-shaped, compressed: involu- ni'gricans.
crums 2-leaved; 1 valve long, awl-shaped.

Dicks. h. s.—E. bot. 1121—H. ox. viii. 10. 28—*Fructif. Scheuch.*
7. 12. 14.

Leaves numerous, bristle-like, forming a thick tuft compos-
ed of small bundles, each bundle covered with many broad scales

* Cows eat it. The roots, dried and ground to powder, have been used
instead of flour in times of scarcity.

of a blackish brown colour. *General Involucrum* 2 valves, notched at the end, with a sharp point in the middle. *awn* of the *outer valve* much longer than the whole head, and dark brown at the end. LINN. *Scales* 2-rowed. *Spike-stalk* bent alternately backwards and forwards. *Seeds* roundish, approaching to 3-square, of a pearly lustre, HALL. Each seed lies within the corresponding curvature of the spike-stalk. ST.

Round black-headed Bog-rush, or Rush-grass. Schœnus nigricans. LINN. and Fl. Brit.—Bogs, marshes. [Bogs in Norfolk. Mr. PITCHFORD.—About Darlington, but not common. Mr. ROBSON.] P. June.

acicularis. C. Straw cylindrical, naked, bristle-shaped: spike egg-shaped, 2-valved: seeds naked.

E. bot. 749—*Fl. dan.* 287—*H. or.* viii. 10, row 3, 37—*Plots Oxf. t.* 9. f. 3—*Pluk.* 40. 7.

Forms a fine close green turf. *Straw* from 1 to 6 inches high. ST. *Straw* and *leaves* as fine as a horse hair; the former is not 4-cornered, according to Hudson, but though cylindrical it is often compressed and fluted. The spike being more properly 2-rowed, than tiled on every side, as Haller observed, it ought, as suggested by Retzius, to be considered a *Cyperus*; and the absence of hairs or bristles at the base of the seed adds confirmation to this opinion. (Dr. Smith characterizes the straw as quadrangular, approving the discrimination of Hudson, though in opposition to every other writer. E.)

Little or least upright Clubrush. Slender Clubrush. Scirpus acicularis. LINN. HUDS. LIGHTF. Fl. Brit. E. bot. Watery heaths, marshes and bogs. [Malvern Chase, Worcestershire. ST.]—(On Epping Forest, near Wanstead. Mr. E. FORSTER, jun. Fl. Brit.—Abundant in Anglesea. Rev. H. DAVIES. Bot. Guide. E.) P. Aug.

(2) *Straw 3-cornered; leafy.*

longus. C. Umbel leafy, more than doubly compound: fruit-stalks naked: spikes alternate.

Jacq. pl. rar. 297—*E. bot.* 1309—*H. or.* viii. 11. 13—*Fuchs.* 453—*Trag.* 915; (improperly referred by C. B. to his *C. rot. vulg.*)—*J. B.* ii. 501. 1—*Matth.* 26, left half of the fig.—*Ger.* 28. 1—*Dod.* 338. 2—*Lob. obs.* 40. 1—*Ger. em.* 30. 1—*Park.* 146. 3 (*descr. n.* 4) C. B. th. 216—*Blackw.* 516—*Branch of a panicle, Scheuch.* 8. 12.

Fruit-stalks sometimes to the amount of 12 or 13, forming a sort of umbel, the outer spokes of which are gradually shorter and shorter. *Little spikes* slender, chesnut coloured, Scop.

Sweet Cyperus. English Galingale. Isles of Purbeck, near a chapel on the side that looks towards Portland Island. *Ray. Syn.* (Diligent enquiry has failed to find it there. *PULTENEY. E.*)— [Not found on St. Faith's Bogs, as mentioned by Huds. ed. 2. —A specimen of it was by mistake sent to Mr. Hudson with some of St. Faith's plants. *Dr. SMITH.*] There is great reason to doubt its being a native. (By a little rivulet that runs into Whitsand bay, between St. David's Town and St. David's Head, the only certain British station of this plant. July 25, 1775. *Sir J. CULLUM, Bart.*—Never found near Norwich. *Fl. Brit.*—It has since been gathered in an old fish pond at the back of a cottage at Walton in Gordan, Somersetshire, by *Mr. DYER.* *E. bot. E.*) P. July.*

SCHœNUS. *Husks* chaff-like, of 1 valve, crowded:
Bloss. none: *Seed* 1; roundish, within the
husks.

S. Straw cylindrical, smooth: leaves prickly at the edge, *mariscus*,
and along the back.

E. bot. 950—*Boccon.* 72. 2—*Lob. ic.* 76. 1—*Ger. em.* 29. 3—*C. B. th.* 221—*J. B. ii.* 504. 1—*H. ox.* viii. 11. 24—*Park.* 1264. 1—*Mich.* 31. *Pseudo. Cyp.*—*Fructif. Scheuch.* 8. 7—11.

Four or five feet high, unbranched, beautifully scored, leafy. *Lower leaves* 2 feet long or more, three quarters of an inch broad, ending in a sharp point: prickles on the edge and midrib short and stiff. *Panicles* terminating and axillary, consisting of many roundish spiculae; the lower ones on pedicles, the upper ones nearly sitting. *Mr. ROBSON.* *Common Calyx* composed of scales without any parts of fructification. *Stamens* 2. **SCHœUCH.**

Long-rooted bastard Cyperus, or Rushgrass. Marshes; bogs. [Bogs in Norfolk. *Mr. PITCHFORD.*—Moss of Restenet, Forfar. *Mr. BROWN.*—Hell Kettles, near Darlington. *Mr. ROBSON.*]— (*Ellingham Fenn, Norfolk, and near St. Olave's Bridge, Suffolk.* *Mr. WOODWARD.*—*Llanddysnan, &c. Anglesea.* *Rev. H. DAVIES.* *Common on the moors about Cambridge.* *Mr. CROWE.*—At Weymouth, by the Fleet, in ditches communicating with the salt water.

* The root is agreeably aromatic to the smell, and warm and bitter to the taste. The modern practice disregards it; but perhaps it is not inferior to some of the more costly medicines brought from abroad.

PULTENEY.—By the river near Mutford Bridge, Suffolk. Mr. Wigg. *Bot. Guide. E.*) P. July—Aug.*

ni'gricans. S. Straw cylindrical, naked: spike an egg-shaped head: involucre 2-leaved, 1 valve awl-shaped, long. See *Cyperus nigricans*.

ferrugin'eus. S. Straw naked: flowers in a double spike: larger valve of the involucre as tall as the spike.

H. ox. viii. 12. 40.

Bogs in mountains. Found by Mr. DICKSON in Scotland, in great plenty.—(This species is still refused a place in the *Fl. Brit.* but we cannot reject it here, having received foreign specimens from Prof. Thunberg, which seem to identify those discovered in this country. *E.*) P. July.

fus'cus. S. Straw leafy: leaves thread shaped, channelled: spikes in pairs, plump.

E. bot. 1575—H. ox. viii. 11. 40.

Very much resembling the *Sch. albus*, in height, size, appearance, and place of growth, but still a different species, distinguishable by its *little spikes* being brown, growing in clustered heads, and not white and flat topped as in *Sch. albus*. It flowers also earlier. LINN. *Panicle* sometimes blackish. *Straw* not so tall, 3-cornered, but the angles blunt. *Leaves* marked with brown spots; 2 or 3 inches long, and somewhat more than half a line broad. POLLICH. (Although the learned author of the *Flora Britannica*, in that work, denies this plant a specific distinction, and there asserts that no difference whatever exists between *S. fuscus* and *S. albus*, except the brown colour of the spikes of the former, and that the straws in both are three-cornered; on examining and comparing specimens sent by Mr. Gough, Mr. Griffith, and Mr. Dickson; we cannot relinquish even the different form of the straws, and think the plumpness of the spikes of *S. fuscus* particularly striking. It has been the endeavour of several ingenious botanists to form more indisputable characters for these species, and we find Dr. Smith has recently fully admitted the new distinctions pointed out by Ehrhart and Roth, as stated in *E. bot. viz.* that *S. fuscus*

* (So plentiful on the moors near Cambridge that it is commonly used in that town for lighting fires, Mr. CROWE, in *Fl. Brit. E.*)—It serves for thatching instead of straw and often grows in such quantities in pools as to form floating islands. It is hurtful to cows.

has three stamens, *S. albus* but two; *S. albus* has about ten bristles at the base of the seed, *S. fuscus* only three, alternate with the permanent stamens. Mr. Dawson Turner, in *Bot. Guide*, also agrees that this appears clearly to be a separate species, distinguishable by its filiform, channelled leaves, by its brown, ovate, sub-spiked flowers, and by having only six bristles at the base of the seed. We fear these setæ or bristles may be found to vary in number as in other grasses. E.)

Schœnus albus (fuscus.) HUDSON. who with Haller regards it only as a variety of the *albus*. (*Schœnus albus* β *Fl. Brit. E.*)

Brown Rush-grass. Turfy bogs. [Brigsteane Moss, and other mosses about Kendal. Mr. GOUGH.] (On Cromlyn bog, near Swansea. Mr. E. FORSTER, in *E. bot. E.*) P. June.

S. Straw roundish, but tending to 3-cornered; naked: *compres'sus*.
spikets in two opposite rows. Involucrum 1 leaf:
florets with one husk.

Dicks. h. s.-E. bot. 791—*Leers* 1. 1—*Pollich.* 1. 2—*Pluk.* 34.
9—*Mich.* 31. *Cyprella. K.-Scheuch.* 11. 6.

Straws round, and somewhat flattened; below the spike 3-square and rough. *Involucrum* scarcely longer than the spike. *Little spikes* alternate. *Scales* fixed without any order to the receptacle. *Summits* 2. *Seed* surrounded with six rough bristles. LEERS. (*Root* fibrous, rather creeping. *Fl. Brit. E.*) *Involucrum* either half as long, equally long, or twice as long as the spike. Its 2-rowed spike would almost induce a reference to the genus *Cyperus*, did not a more accurate examination support its present arrangement.

Compressed Rushgrass. Sch. compressus. LINN.—*Carex uliginosus.* LINN. Turf bogs. [Near Ditchingham-Bath, Norfolk. Mr. WOODWARD.]—(Marsh a mile West of Prestatyn, Flintshire. Mr. GRIFFITH.—Bootle North-shore, near Liverpool. Dr. BOSTOCK.—Hinton Moor, near Bottisham Load, Cambridgeshire. RELHAN.—Hell-beck and Tindale Fell, Brampton. HUTCHINSON.—Bogs between Ryhope and the sea, Durham. Mr. WINCH.—Ham Ponds, Kent. DILLWYN.—Sea coast near Bamburgh. Mr. WINCH.—Frequent in Suffolk. Mr. WOODWARD.—Common upon Farnham Mires, and else where near Knaresborough. Rev. J. DALTON. *Bot. Guide. E.*) P. July.

S. Straw nearly 3-cornered, leafy: spike nearly egg-shaped: *ru'fus*.
shaped: spikets 1-flowered: involucrum 1 leaf.
HUDSON.

Dicks. h. s.-E. bot. 1010. *Lightfoot. fl.* 24. 2.

Root perennial, branched, horizontal, creeping. *Straws* many, six inches high, upright, a little 3-cornered, undivided

leafy at the base. *Root-leaves* slender, acute, naked, a little channelled, almost as long as the straw. *Stem-leaves* 2, on leaf-stalks, slender, sharp, about 3 inches long. *Leaf-stalk* sheathed, cylindrical, scored, smooth. *Spike* terminating, nearly egg-shaped. *Little spikes* 5 or 6, sitting, alternate, tiled, reddish brown. *Involucrum* 1 leaf, acute, as long as the spike, not quickly decaying. *Husk* of 1 flower and 2 valves. *Valves* upright, oblong, concave, permanent. *Blossom*, petals 6, spear-shaped, sharp, skinny; half as long as the husk. *Stamens*, filaments 3, hair-like; shorter than the blossom. *Anthers* oblong, upright, yellow. *Pistil*, germen egg-shaped, 3-cornered. *Style* very short. *Summits* 3, (2, YALDEN,) hair-like. *Seed* single, 3-cornered, tapering to a point. HUDSON. Colour of rusty iron. *Straw* nearly round, LIGHTFOOT.

Tawny Rush-grass. Sch. compressus var. *Lightf.* (*S. ferrugineus*. With. Ed. 2. E.) This has often been described for the *S. ferrugineus*, which I believe has never been found in Britain. Dr. SMITH.—Marshes, in the Isles of Skye and Mull, and near Glasgow. *Ib.*—(Near Dunglas Castle. LIGHTFOOT.—On the coast to the E. of Dunbar. Mr. J. MACKAY.—Near Primrose bridge, between Bootle and Crosby rabbit warren, near Liverpool. Mr. SHEPHERD.—Near Aberfraw and Bodowen, Anglesea. Rev. H. DAVIES. *Bot. Guide.* E.) P. July.

al'bus.

S. Straw leafy, nearly 3-cornered: flowers in bundles: leaves like bristles.

Dicks. h. s.—*E. bot.* 985—*Gies* 29—*Fl. dan.* 320—*H. ox.* viii. 9. 39—*Pluk.* 34. 11—*Scheuch.* 11. 11—*Mich. Cyperella* I.

Flowers at first white, but turning tawny. MICH. *Leaves* slightly channelled. HUDS. *Stamens* 2, rarely 3. ST. (*Straw* decidedly 3-cornered. E.)

White-flowered Rush-grass. Marshes. A bog near Heydon, Norfolk. WOODWARD.—Blakeley, near Manchester. Mr. CALEY.—Birmingham Heath. New Forest, Hampshire.—(Ampthill Moor, &c. Bedfordshire. ABBOT.—Bullmarsh Heath, Berkshire. Mr. RUDGE. *Bot. Guide.*—Bogs west of Dolbadarn Castle; and boggy fields between Plâsnewydd in Rhyl and Rhyd Marsh, near Rhyddlan. Mr. GRIFFITH. E.)

P. July—Sept.

CA'REX. *Catkins* tiled: *Cal.* 1 leaf: *Bloss.* none: *Female* florets on the same plant with the male. *Capsule* inflated; entire or 2-toothed at the end. *Summits* 2, or 3. *Seed* 1, 3-cor-

nered, within the nectary (or capsule.)—(Or, as recently corrected, Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic. E.)*

SYNOPSIS OF THE SPECIES.

(1) *Spike single, not branched.*

1. *C. dioica*. Spike simple; edges of the capsule finely serrated; male and female florets on different plants.
- (2. *C. Davalliana*. Spike simple, dioecious; fruit spear-shaped, triangular, ribbed, deflexed; its angles rough towards the summit. E.)
3. *C. pulcarris*. Spike simple, with M. and F. florets; M. flowers uppermost; capsules diverging, bent back, tapering at each end.

* It is well known that this numerous and difficult Genus was less successfully laboured by Linnæus than many other parts of his system, which has been the occasion of great confusion in succeeding writers; but this deficiency, so far as it regards the British species of *Carex*, is now amply supplied by the industry and accuracy of the Rev. Dr. Goodenough, whose very judicious tract published in the 2d vol. of *Transactions of the Linnean Society*, has enabled me to present to the English botanist a new set of specific characters, and more ample as well as in many instances more accurate descriptions, than could otherwise have been given; besides the removal of many existing doubts and many established errors. The species being very numerous, their investigation will be facilitated by giving the specific characters altogether, as Dr. Goodenough has done. The annexed numbers will direct the reader to the descriptions more at large, the references to figures, &c. I must further add, that it is not only to Dr. Goodenough's paper, mentioned above, that myself and my readers are indebted for the improved state of this Genus, but also to his private communications of specimens and observations, and to the trouble he has taken in looking over the references to figures and pointing out such as he thought erroneous. (Dr. Smith has since the publication of our fourth edition still farther extended this Genus by the addition of several new species, which will be here found incorporated under the general arrangement of the Rev. Dr. Goodenough, (present Bishop of Carlisle,) who has likewise suggested an improvement of the generic character of *Carex*, by calling the permanent husk that invests the seed an *arillus*, a name which Dr. Smith observes, expresses its true nature much better than the hypothetical one of *nectarium*, the erroneous one of *capsula*, or even the analogical denomination of *corolla*. E.)

4. *C. paucifló'ra*. Spike simple, with M. and F. florets; F. florets about 3, not closely set, expanding; M. florets generally terminating.

(2) *Spike compound; Male and female florets in each Spiket.*

[*C. atrata*.]

5. *C. stellula'ta*. Spikets generally 3 or 4, distant; capsules diverging, entire at the rim, acute.
6. *C. cur'ta*. Spikets about 6, egg-shaped, rather distant, naked: scales egg-shaped, rather acute, shorter than the capsule.
- (7. *C. elonga'ta*. Spikets numerous, oblong, rather distant, naked; glumes ovate; tunic ovate, pointed, cloven, recurved, many-ribbed, longer than the glume. *E. bot. E.*)
8. *C. ova'lis*. Spikets about 6, oval, alternate, near together; scales spear-shaped, acute, as long as the capsule.
9. *C. remo'ta*. Spikets axillary, solitary, distant, nearly sitting; floral leaf very long; capsules undivided at the end.*
10. *C. axilla'ris*. Spikets axillary, often three together, distant, sitting; floral leaf long; capsules cloven at the end.*
11. *C. incur'va*. Spike conical, composed of many sitting spikets crowded together; involucre none; straw curved.
12. *C. arend'ria*. Spike leafy, oblong, rather acute; spikets many, the upper ones male, the lower female; straw curved.
13. *C. interme'dia*. Spike oblong, blunt; spikets many, the upper and the lower ones female, the middle ones male; straw upright.

* (The Rev. Dr. Goodenough, has since added, "I believe all *Carexes* dispose of their seeds by the opening of the point of their capsule. This opening is observable in some very early, in others not 'till quite old. In the former the capsule is described as opening; in the latter, because it is not seen but in very advanced age, it is mentioned as closed." *Linn. Trans.* v. 3. p. 77. E.)

14. *C. divi'sa*. Spike egg-shaped, somewhat doubly compound; floral leaf upright; spikets rather crowded; capsules laid close; root creeping.
15. *C. murica'ta*. Spike oblong, somewhat doubly compound; spikets not crowded; capsules diverging, cloven at the end; root fibrous.
16. *C. divul'sa*. Spike doubly compound, long, somewhat branched at the base; lower spikets distant, upper ones near together; capsules rather upright.
17. *C. vulpi'na*. Spike more than doubly compound, compact though branched, blunt; spikets male at the top; capsules diverging; straws with very acute angles.
18. *C. panicula'ta*. Spike (or branched panicle) more than doubly compound, acute: branches alternate, rather distant; capsules expanding; straw 3-cornered.
19. *C. tereti's'cula*. Spike more than doubly compound, branched but compact, rather acute; spikets crowded; Male floret at the top; capsules expanding; straw roundish.
- (3) *Spikes 1 male, the others female: floral leaves membranaceous.*
20. *C. digita'ta*. Sheaths membranaceous, not leaf-like, inclosing half the fruit-stalk: spike strap-shaped, upright; male spike shortest; capsules distant.
21. *C. clandest'i'na*. Sheaths membranaceous, not leaf-like; female spikes distant, hardly higher than the sheath.
- (4) *Spikes 1 male, the others female; floral leaves leaf-like, generally sheathing the fruit-stalk.*
22. *C. pen'dula*. Sheaths long, inclosing all the fruit-stalk; spikes cylindrical, very long, pendant; capsules much crowded, egg-shaped, acute.
23. *C. strigo'sa*. Sheaths long, inclosing all the fruit-stalk; spike thread-shaped, limber, turning downwards; capsules oblong, rather 3-cornered, acute.

24. *C. præcox*. Sheaths short, inclosing nearly all the fruit-stalk; spikes near together; male spikes club-shaped; female, egg-shaped; capsules roundish, pubescent.
25. *C. filiformis*. Sheaths short, inclosing nearly all the fruit-stalk: male spikes generally 2, strap-shaped: female spikes egg-shaped, distant; capsules hairy.
26. *C. flava*. Sheaths short, inclosing nearly all the fruit-stalk; the upper leaf-like part diverging; M. spike strap-shaped; F. spikes roundish; capsules beak-pointed.
27. *C. extensa*. Sheaths very short, inclosing all the fruit-stalk; the upper leaf-like part somewhat reflected; spikes crowded; female spikes nearly globular; capsules egg-shaped, acute.
28. *C. distans*. Lower sheath inclosing about half the fruit-stalk; upper ones nearly the whole; spikes oblong, very far asunder; capsules acute.
- (29. *C. binervis*. Sheaths elongated, shorter than the fruit-stalk; spikes cylindrical, remote, often compound; scales pointed; fruit with two principal ribs. *E. bot. E.*)
30. *C. panicea*. Lower sheath inclosing about half the fruit-stalk; upper ones nearly the whole; spikes slender, upright, far asunder; capsules inflated, bluntish, rather distant.
31. *C. capillaris*. Sheaths inclosing half the fruit-stalk; female spikes oblong, limber, pendent when ripe; fruit-stalk hair-like; capsules tapering to a point.
32. *C. depauperata*. Sheaths inclosing less than half the fruit-stalk; female spikes distant, few-flowered; capsules egg-shaped, inflated, beak-pointed.
33. *C. sylvatica*. Sheaths short; spikes thread-shaped, limber, pendent; capsules egg-shaped, ending in an awn-like beak.
34. *C. recurva*. Sheaths short; female spikes nearly cylindrical, pendent; capsules roundish, egg-shaped; roots creeping.

35. *C. palles'cens*. Sheaths extremely short; female spikes rather cylindrical, pendent when in fruit; capsules oblong, blunt.
36. *C. limo'sa*. Sheaths hardly any; female spikes egg-shaped, pendent; capsules egg-shaped, compressed; roots creeping.
37. *C. pseudo-cypé'rus*. Sheaths hardly any; female spikes cylindrical, on fruit-stalks, pendent; capsules awn-beaked, rather diverging.
38. *C. atra'ta*. Sheaths hardly any: all the spikes with male and female florets; upper spikes on fruit-stalks, when in fruit, pendent; capsules egg-shaped, rather pointed.
- (39. *C. pul'la*. Summits 2; sheaths none; spikes egg-shaped, the lower one stalked; fruit elliptical, inflated, with a short notched beak. E.)
40. *C. piluli'fera*. Sheaths none; male spike slender, females somewhat globular, sitting, crowded; straw, feeble.
- (41. *C. tomento'sa*. Sheaths extremely short; female spikes nearly sessile, cylindrical, obtuse; glumes elliptical, acute; fruit downy. E.)
42. *C. ri'gida*. Summits 2; sheath none; spikes oblong, nearly sitting: leaves rigid, bent.
43. *C. caespito'sa*. Summits 2; sheaths none; spikes nearly sitting and cylindrical, blunt; leaves upright, soft.
44. *C. stric'ta*. Summits 2; sheaths none; spikes nearly sitting, cylindrical, acute; male spikes mostly 2; leaves upright, stiff and straight.
- (5) *Spikes, some male, others female; male spikes 2 or more.*
 [C. filiformis, stricta, recurva, and some others, which have though rarely, 2 male spikes.]
45. *C. ripa'ria*. Spikes oblong, acute; scales of the male spear-shaped, of the female tapering to an awn-like

point; capsules egg-spear-shaped, cloven into two teeth at the end.

- (46. *C. Micheliá'na*. Spikes upright, cylindrical; female ones on stalks; all the glumes blunt, awnless; fruit obovate, extremely blunt. E.)
- (47. *C. lævigá'ta*. Spikes cylindrical; female ones on stalks; sheaths very long; glumes pointed; fruit triangular, with a cloven beak. E.)
48. *C. paludo'sa*. Spikes oblong, bluntish; scales of the males blunt, of the females spear-shaped; capsules egg-spear-shaped, slightly toothed at the end.
49. *C. acu'ta*. Summits 2; spikes thread-shaped; female spikes nodding whilst in flower, upright when ripe; capsules rather acute, entire at the end.
50. *C. vesicá'ria*. Male spikes strap-shaped; females oblong, expanding; capsules inflated, oblong, beak-pointed, expanding.
51. *C. ampulla'cea*. Spikes thread-shaped, the males thinnest, females cylindrical, upright; capsules inflated, globular, awn-beaked, diverging.
52. *C. hir'ta*. Hairy; all the spikes oblong; female spikes far asunder, sheathed; capsules hairy.

(1) *Spike single, not branched.*

dioi'ca.

1. *C.* Spikes simple; edges of the capsule finely serrated; male and female florets on different plants.

E. bot. 543—*Fl. dan.* 369—*H. ox.* viii. 12. 22. Male plant. *ib.* 36, Female.—*Mich.* 32. 1 and 2. M. and F. plant; but the latter erroneously represented with three summits instead of two.

Root creeping. *Leaves* like bristles, somewhat 3-cornered; channelled on the inside, upright, smooth, nearly as tall as the fruit-stalk. *Straw* 4 to 10 inches high, 3-cornered, smooth. *Male spike* half to one inch. *Female* shorter. *Capsules* expanding, egg-shaped, acute. *Summits* 2. GOODENOUGH. L. Tr. ii. 140. *Seeds* a little serrated. *Straw* at bottom light brown; but in the *C. capitata* the seeds are entire, and the straw black

at the bottom ; so that should the *C. capitata* at length prove to be a British plant they may be distinguished by these circumstances. Mr. AFZELIUS.

Var. 2. Male and female florets on the same spike.

Gent. Mag. July, 1793.

C. capitata of Hudson, not of Linn. RELHAN. Found amongst the other plants on Hinton and Teversham Moors near Cambridge.

Small Seg. Turf bogs. [Polam near Darlington. Mr. ROBSON.—Meadows, Marham; Norfolk. Mr. CROWE.—Boggy meadows, near Bungay, Suffolk. Mr. WOODWARD.]—(In a bog at the upper end of Llyn Idwel. Mr. GRIFFITH.—Common in Anglesea, Hinton Moor, Gamlingay bogs, moor between Snailwell and Exning, Cambridgeshire. Dr. MANNINGHAM.—Bog in Purbeck Isle. PULTENEY.—Near Aberdylais Waterfall. Mr. DILLWYN.—Peat bogs on Bullington Green, under Headington Wick Copse, Oxfordshire. SIBTHORPE.—Amberley Wild Brooks, Sussex. Mr. BORRER. *Bot. Guide.* E.) P. June—July.

(2. *C.* Spikes simple, dioecious; fruit spear-shaped, triangular, ribbed, deflexed; its angles rough towards the summit, *Fl. Brit.*

E. bot. 2123.

Root tufted, not creeping. Stem rough. Spikes much longer than in *C. dioica*, and the long, reflexed, strongly ribbed seed-covers, roughish only at the angles near the top, not serrated, are abundantly characteristic. Dr. SMITH.

Prickly separate-headed *Carex*. First ascertained to be a British plant by Professor J. BEATTIE, who found it in Mearns-shire.—Lansdown, near Bath. Mr. GROULT.—On the slope of a hill on which there is a clump of firs, a mile and quarter from Bath. Mr. FORSTER. P. June. E.)

3. *C.* Spike simple, with M. and F. florets; M. flowers uppermost; capsules diverging, bent back, tapering at each end. pulica'ris.

E. bot. 1051—*Leers* 14. 1—*H. ox.* viii. 12. 21—*Mich.* 33. 1—*Pluk.* 34. 10—*Fl. dan.* 166.*

* Scheuchz. 11. 9. 10. has been referred to this species, and by Linnaeus to his *C. dioica*, but Dr. Goodenough informs me Scheuchzer's plant is not a native of Britain, observing, that it is more like *pulicaris* than *dioica*, but distinct from both; from *dioica* by the divaricated capsule, from *pulicaris* by the capsule being divaricated, not reflected, and by being egg-shaped at the base, and not tapering from the middle to each end; (and Dr. Smith suspects the figure of *Fl. Dan.* 166, to be the male plant of *C. dioica*. E.)

Straw cylindrical, flattish on one side. *Barren flowers* falling off when out of blossom. *Capsules* pointed, when bent back give the straw the appearance of a different plant, bearing no small resemblance to a harpoon. LINN. *Root* fibrous; this circumstance at all times distinguishes it from the *C. dioica*, which has a creeping root. *Straw* smooth, 3 to 12 inches high. *Spike* terminating, cylindrical. *Summits* 2. GOODENOUGH. L. Tr. 142. *Leaves* bristle-shaped, bright green, in tufts, half as long as the straw. *Spike*, the male part slender, closely tiled. *Male flowers*: *Scale* somewhat oval. *Female flowers*: *Scales* broad at the base, embracing the germen, tapering to a point. *Capsules* longer than the scales, at first pressed to, afterwards expanding, at last bent back, in which state shining brown, spear-shaped both ways, at a little distance much resembling a flea. WOODWARD.

Flea Seg. Turfy and muddy bogs. Sides of Ingleborough and other mountainous situations. CURTIS.—Boggy meadows, Norfolk, and near Bungay, Suffolk. WOODWARD.—Malvern Chase. Mr. BALLARD.—Potam near Darlington. Mr. ROBSON.—Charley forest. PULTENEY.—On St. Vincent's rock, with the *Ophrys apifera*.
P. June.

pauciflora.

4. C. Spike simple, with M. and F. florets: F. florets about 3, not closely set, expanding; M. floret generally 1, terminating.

Dicks. h. s.—E. bot. 2041—*Lightf.* 6. 2. at p. 77.

Root branched. *Straw* (3 to 5 inches high,) upright triangular, leafy, scored. *Root-leaves* few, sword-shaped, pointed, naked, *stem-leaves* 2, shorter than the straw. *Spike* terminating, upright. *Barren flowers* 2 or 3, brown; *fertile flowers* 3 or 5, greenish. HUDSON. (*Summits* 3, occasionally two. LIGHTFOOT. E.)

Few-flowered Seg. *Carex patula*. HUDS. 402 and 657. ST.—Boggy soil half way up Goatfield mountain in the Isle of Arran, near a place where peat is dug in the ascent of Brodwick Castle. LIGHTFOOT.—Mountainous heaths. Near Glasgow. HUDSON.—(On peat bogs, Northumberland, between Twice-brewed-ale and Crag Lake, near the Roman-wall. Mr. WINCH, in *E. bot.* E.)
P. June,

- (2) *Spike* compound: both male and female florets in each spiket.

[*C. atrata*.]

stellulata.

5. C. Spikets generally 3, (or 4,) distant; capsules diverging; entire at the rim; acute.

E. bot. 806—*Leers* 14. 8—*Fl. dan.* 284—*H. ox.* viii. 12. 26—*Scheuchz.* 11. 3—*Mich.* 33. at the bottom, the right hand small figure.

Root fibrous. *Leaves* very slender, the edges and the keel a little rough, particularly upwards. *Straw* 3-cornered, whilst flowering 3 inches high, afterwards much longer, and taller than the leaves. *Capsules* only slightly or not at all cloven at the end. *Summits* 2. *GOODENOUGH.* L. Tr. ii. 144. *Spikets* with both male and female flowers; the male flowers below the female. *LEERS.*—*Spikets* seldom more than 4, the spaces between them about equal to their length. *WOODWARD.*—Distinguished from the *C. muricata* by having the point of the capsule acute, and not very evidently cloven. *HALLER.*

(Mr. Dawson Turner states (in *Bot. Guide*) that he found in the meadows opposite the Inn at Beddgelert, a curious variety of this plant with a small male spike at the top of the androgynous ones. That gentleman had also received a similar specimen from Germany. Dr. Smith reports that he has received this *Carex* from Yorkshire, Cambridgeshire, Suffolk, Sussex, and Scotland. *E. bot. E.*)

(*Little Prickly Carex. E.*) Sides of wet ditches and marshy places. [New Forest, plentifully.] P. May—June.

6. *C. Spikets* about 6, egg-shaped, rather distant, naked; *cur'ta.* scales egg-shaped, rather acute, shorter than the capsule.

E. bot. 1386—*Leers*, 14. 7—*Mich.* 33. 18—*Fl. dan.* 285—*Pluk.* 34. 4.*

Root somewhat creeping. *Leaves* slender, upright, pale bluish green, rough along the edges and the keel. *Straw* 12 inches or more, rather taller than the leaves, 3-cornered, corners acute, roughish. *Spikets* 6 or more, egg-shaped, sitting, alternate. *Scales* thin, skinny, tender. *Capsule* run entire. *Summits* 2. *GOODENOUGH.* L. Tr. 147.—*Spikes* of a whitish green. *HALLER.* *Spikets* oblong-egg-shaped.

White Seg. C. canescens. *LIGHTF. C. brizoides.* *HUDS.*—*C. cinerea.* *Bot. Arr.* ed. ii. Marshy places. Terrington Car, near Castle Howard, Yorkshire. Mr. *TEESDALE.*—[Llyn Idwel, Carnarvonshire. Mr. *GRIFFITH.*—At the foot of Lochain y Gair, near Invercauld, and on Ben Lawers. Mr. *BROWN.*] P. June.

* The fig. of Micheli is very large and coarse. Loesel. Pruss. p. 117. t. 32. is one of the best figures extant. In Plukenet's fig. the spiculæ are wrongly placed on one side. Dr. *GOODENOUGH.*

- (elongatā. 7. *C.* Spikets numerous, oblong, rather distant, naked; glumes egg-shaped: tunic egg-shaped, pointed, cloven, recurved, many-ribbed, longer than the glumes. *E. bot.*

E. bot. 1920—Scheuch. *Agr.* 487. t. 11. f. 4.

Root tufted. *Stems* above a foot high, triangular, rough-edged, as are also the *leaves*. *Spikets* from seven to fourteen, oblong, alternate, the upper ones crowded. *Glumes* acute, glossy, brown, with a green rib and pale edge, shorter than the fruit, which is copious, green, egg-shaped or elliptical, pointed, cloven, strongly ribbed, at length somewhat recurved. *Stigmas* 2. *Male flowers* inferior, few. *E. bot.*

Elongated Carex. Discovered by Mr. JONATHAN SALT, in a marshy place at Aldwark, near the river Don, below Sheffield. P. June. E.)

- ova'lis. 8. *C.* Spikets about six, oval, alternate, near together: scales spear-shaped, acute, as long as the capsule.

Fl. dan. 1115—*E. bot.* 306—*H. ox.* viii. 12. 29, and a separate spike at the bottom—*Leers*, 14. 6—Scheuch. 10. 15.

Root fibrous. *Leaves* deep green, rough on the edges and the keel. *Straw* 3-cornered, a foot high; angles acute, roughish. *Capsules* the rim entire. *Summits* 2. *Male florets* at the base of the spikes; few. *Female florets* numerous, terminating. GOODENOUGH. *L. Tr.* ii. 148.—*Floral-leaves*, frequently one at the base of the lowermost spiket, nearly as long as the spiket, soon falling off; the rest similar to the scales, only broader and longer. *Scales* oval spear-shaped, shining, yellowish brown, with a green keel, membranaceous at the edge, the upper in each spiket longer and more pointed. WOODWARD. *Straw* eight to sixteen inches high, hollow.

Naked Seg. C. leporina. HUDS.—Marshes and watery places. On the south side of Westbromwich heath, near Birmingham. P. June.

- remo'ia. 9. *C.* Spikets axillary, solitary, distant, nearly sitting: floral-leaf very long: capsules undivided at the end. (this latter characteristic, Dr. Goodenough finds not always permanent. *E.*)

E. bot. 832—*H. ox.* viii. 12. 17—*Leers* 15. 1—*Fl. dan.* 370—*Mich.* 33. 15 and 16—*Pluk.* 34. 3.

Spikes very small, the lower often on short fruit-stalks. LINN. A very elegant plant. *Stems* several together, one to two feet high, slender, weak, 3-cornered, leafy below, above the lowermost floral-leaf rough, below smooth. *Leaves* numerous, slender. *Spikes* five to eight, sitting, spear-shaped, the three or four lowermost in the bosom of the floral-leaves, the upper naked. *Floral-leaves*, the lowermost longer than the stem, the two or three next above gradually shorter than the lowermost. *Scales* spear-shaped, when young with a green keel, and silvery membranaceous edges; when the seeds are ripe, yellowish. *Style* divided about the point of the capsule into two summits. *Capsule* longer than the scales. WOODWARD.—*Leaves*, edged with exceedingly fine teeth.

Remote Seg. Moist woods and sides of wet ditches.

P. May—June.

10. *C. Spikets* axillary, often three together, distant, sitting: floral-leaf long: capsules cloven at the end. axilla'ris.
(This latter distinction, Dr. Goodenough declares not constant. E.)

Linn. Traps. ii. 19. 1—*E. bot.* 993.

Neither this nor the preceding species can well be mistaken for any other, and though in many circumstances they agree one with the other, the following observations of Dr. Goodenough are abundantly sufficient to distinguish them. In *C. axillaris* the straw is strong and rigid; in *C. remota* soft and feeble. *C. axillaris* has three to five spikets growing together; *C. remota* has never more than one at the base of each leaf. *Capsules* in *remota* entire, in *axillaris* cloven. LINN. Tr. ii. p. 151.

Axillary Clustered Carex. Found by Mr. CURTIS near Putney. (Since found by Mr. WOODWARD, at Earsham, Norfolk. —About wet ditch banks.—Hall wood, Wood-Ditton, Cambridgeshire. RELHAN.—Side of a ditch near Ugly Green, and near Rickling Green, Essex. Mr. E. FORSTER, jun.—Edges of ponds near Ripon. Mr. BRUNTON.—Sides of ditches at Beverley. Col. MACKELL. *Bot. Guide.* E.) May—June.

11. *C. spike* conical, composed of many sitting spikets crowded together: involucre none: straw curved. incurva.

E. bot. 927—*Lightf. fl.* 24—*Allion. fl.* 92. 4—*Fl. dan.* 432.*

* Scheuch. prodr. 4, 3, had been referred by Dr. Stokes to this species, but Dr. Goodenough says it belongs to Haller's *C. fætida*, and that it is entirely different from the *C. incurva*, as well in the foliage as in the capsule and husks.

Root creeping. *Stalk* three or four inches high, indistinctly triangular. *Leaves* smooth; channelled, about the length of the straw. *Spike*, the male flower at the top, the female at the base. *Summits* 2. LIGHTFOOT. Its conic and compact spike sufficiently distinguishes it from the *C. arenaria*. GOODENOUGH. —From the description of different authors it appears that the curvature of the straw is no necessary part of its character, though Mr. Lightfoot had supposed it to be so, and Dr. Goodenough tells me that in all the specimens he had seen, it had a crooked straw. (Dr. Smith agrees with us that the *C. juncifolia* of Allioni is the same with this species; but growing in alpine bogs, not exposed to driving sands or torrents, the stem is less frequently curved. E.)

(*Curved Carex*, E.) Deep loose sea sand at the mouth of the water of Naver, and near Skellerry, in Dunrosness in Shetland. HOPE, in *Fl. Scot.* (More recently, Professor BEATTIE has found it near Aberdeen. E. bot. E.) P. July—Aug.

arenaria.

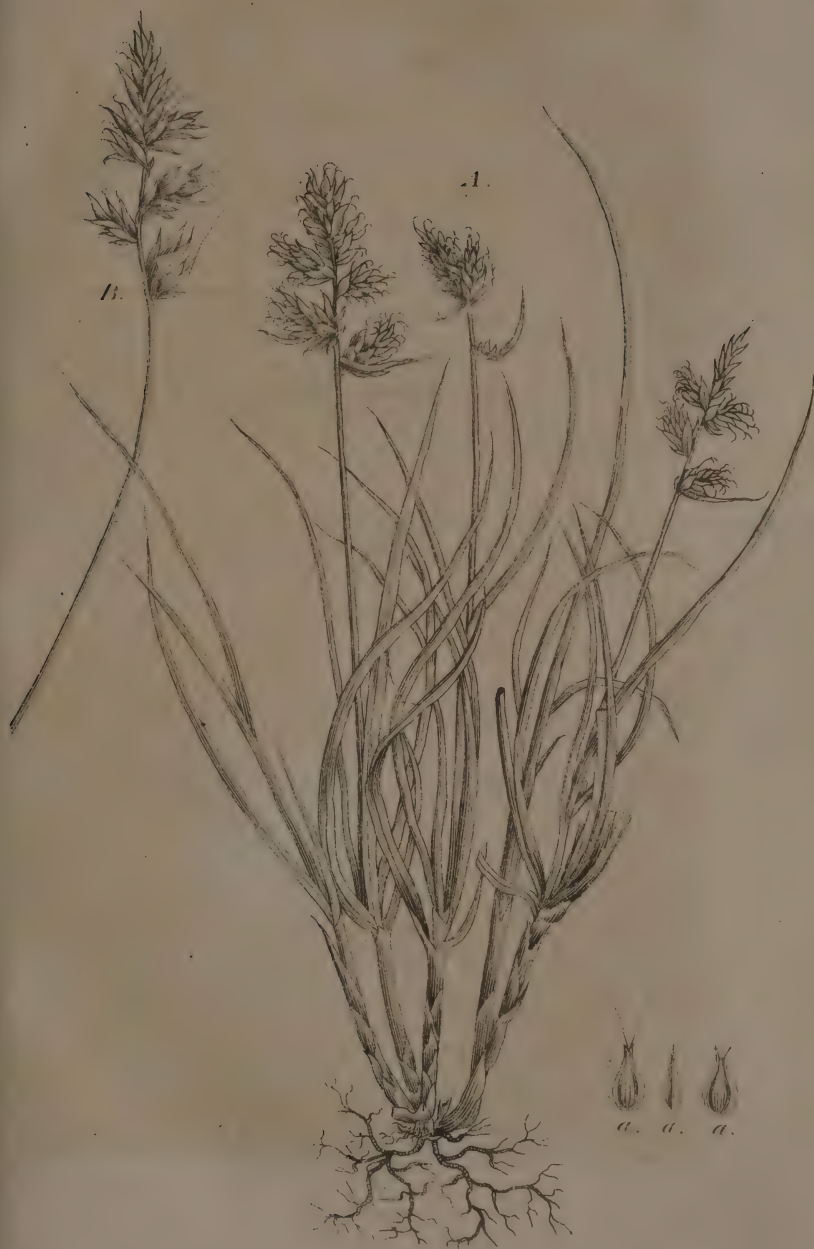
12. *C. Spike* leafy, oblong, rather acute: spikets many, the upper ones male, the lower female: straw curved.

Dicks. h. s.—E. bot. 928.—*Mich.* 33. 3 and 4—*Pluk.* 34, 8—*These fig. are drawn unnaturally upright.*—Pl. XX. B, in seed.

Root the size of a pack-thread creeping in the dry sand to a great length: knots about three fourths of an inch distant, not every one throwing out leaves or fibres. *Leaves* somewhat rolled in at the edge, in tufts arising from a brown, dry, withered sheath. *Spike* one to two inches long, generally bent.—*Spikets* four to ten, oval-spear-shaped, the upper crowded and without floral-leaves. *Floral-leaves*, the lowermost generally shorter than the spike, the next above, and sometimes the two next also, as long as the spikets. *Scales* oval-spear-shaped, pointed, yellowish brown with a green keel. *Capsules* spear-shaped, shorter than the scales, convex on the upper, flat on the lower side, slightly cloven at the end. *Style* divided as it issues from the capsule. *Summits* bent back. WOODWARD. *Capsules* bordered towards the top, two on each side, with a membranaceous hedge. GOODENOUGH.

Sea Seg. In loose moveable sand on the sea shore. [Sea beach at Yarmouth and Lowestoft. Mr. WOODWARD.—Beach near Prestatyn, Flintshire, and Conway Marsh, Carnarvonshire. Mr. GRIFFITH.] P. June—July.*

* (The root (fresh) is sudorific and diuretic; may be used as Sarsaparilla, in diseases of the skin, and syphilis. GLEDITSCH. Professor Sumacher of Copenhagen also bears testimony to its good effect, as a substitute for Sarsaparilla. E.)



Carex. arenaria.

Var. 2. Straw and spikes upright: *Root* fibrous. Pl. XX. A. the upright variety. B. a straw of the common sort in seed, to shew the curvature. a. a. a. views of the capsule to shew its membranaceous border. About five inches high, stiff, upright. *Root* fibrous, not creeping. *Straw* 3-cornered, naked, but sheathed at the base by the leaves for about an inch from the root. *Leaves* sheathing, slender, and channelled upwards, solid and 3-cornered at the end, finely serrated at the edges and corners, nearly as tall as the straw. *Partial Involucrum* half embracing the spike-stalk, broad and leaf-like at the base, slender and pointed upwards. —*Spike* 2-rowed, one to one and half inch long, more than half an inch broad; spear-shaped. *Spikets* sitting, many-flowered (fourteen or more) egg-shaped, upper spikets mostly male, the others mostly female. *Scales* spear-shaped, skinny, yellow, with a green mid-rib, ending in an awn. *Capsules* compressed, concave above, convex underneath, cloven at the end, edged with a membranaceous border. *Summits* 2.

Sandy shore on the N. E. side of the Isle of Wight. Nearly out of flower in May.—(S. and N. shores at Liverpool. Dr. BOSTOCK, E.)

13. C. Spike oblong, blunt: spikets many, the upper and lower ones female, the middle ones male: straw upright. intermedia.

E. bot. 2042—Leers 14. 2—(H. ox. viii. 12, 32. Dr. GOODENOUGH.)

Root thread-shaped, jointed, creeping deep under the surface, joints, distant, fibrous, set with bristle-like fringe. *Straws* above a foot high, somewhat leafy, naked upwards, rough. *Leaves* as long as the straw. *Spike* upright, at length nodding. *Spikets* twenty or thirty, sitting, oblong, taper-pointed, yellowish rust coloured, the lower more distant, alternate, the two lowermost and the terminating one with all the florets fertile, when ripe egg-shaped and thicker; two or three in the middle with fertile flowers and some barren ones at the end, the upper fifteen to twenty, crowded, with only barren flowers. *Floral-leaves*, one at the base of each spiket, spear-shaped, taper-pointed, the two or three lowermost egg-shaped, sometimes terminating in a bristle-shaped leaf just longer than the spiket. —*Scales* of the barren flowers spear-shaped, of the fertile flowers egg-shaped. *Nectary* rough at the edge. *Capsules* egg-shaped, taper-pointed, with sharp edges cloven at the end. LEERS. Resembles *C. ovalis* in habit. *Straw* usually taller, 3-square, angles more acute. *Spike* longer. *Spikets* more numerous, smaller, more spear-shaped, sometimes found proliiferous; the upper much crowded. *Floral-leaf* usually longer

than the spike, not always present, and in its place broad oval spear-shaped scales, of a deeper brown than those of *C. ovalis*. *Style* divided to the base, whereas in *C. ovalis*, only about one fourth of its length. WOODWARD. *Straw* 3-cornered, corners acute, rough. *Summits* 2. *Spikets* seldom purely and entirely male or female, the former admitting a few pistilliferous, and the latter a few stameniferous florets. Nearly allied to the *C. arenaria*, but besides the differences mentioned in the specific characters, and the situation of the roots, in the *C. intermedia* the capsule has its margin entire, whilst in the *C. arenaria* it is bordered towards the top with a broadish membrane. GOODENOUGH. L. Tr. 155.

Soft Brown Carex. Soft Seg. C. disticha. HUDSON.—Marshes. Near Bungay, Suffolk, frequent. Mr. WOODWARD.—Boggy meadows on the side of Malvern Chace, Worcestershire. Mr. BALLARD. ST.—In a meadow at Blymhill. Rev. S. DICKENSON.—(The Park near Liverpool. Dr. BOSTOCK. E.) P. May—June.

divi'sa.

14. *C. Spike* egg-shaped, somewhat doubly compound: floral-leaf upright: spikets rather crowded: capsules laid close: root creeping.

Linn. Tr. ii. 19. 2—E. bot. 1096—(Barr. 114. 2, but the leaves should have been upright and straight—Park. 1267, 11, the root well expressed. Dr. GOODENOUGH.)

Root thick, creeping very much. *Spikets* egg-shaped, almost in contact, upright, terminating florets male. *Scales* longer than the capsules. *Capsules* pressed close to the straw, a little bordered towards the end. GOODENOUGH. *Leaves* narrow, frequently longer than the straw. *Straw* one and half to two feet high, triangular. *Spikets* five or six, the lower rather distant, the upper crowded and expanding. *Floral-leaf* often considerably longer than the spike, and growing in a line with the stem, gives the plant the appearance of a rush. *Scales* oval spear-shaped, shrivelling and falling off as the spike ripens. *Style* longer than the capsule, divided one third of the way into two *summits*, bent back. *Capsules* whitish, oval, pointed at both ends, very indistinctly triangular, or rather convex on one side, and flat on the inner. WOODWARD.

Marsh Seg. Salt marshes. Meadows near Hithe, and Colchester, R. Syn.—[Near Oakley Bridge, between Norwich and Yarmouth. Mr. CROWE.—Cley, Norfolk, next the sea. Mr. WOODWARD.]—(Gathered at Kennington, near London, by Mr. GROULT. *E. bot.*—Abundant in the marshes between Greenhithe and Dartford. Mr. J. WOODS, jun. *Bot. Guide.*—Ham

Ponds, near Dover, and Sandwich marshes. DILLWYN.—Meadow called Derricots, near Hull. TEESDALE. ditto. E.)
P. June.

15. C. Spike oblong, somewhat doubly compound: spikets muricata. not crowded: capsules diverging, cloven at the end: root fibrous.

E. bot. 1097—*Mich.* 33. 14; and *R. between* 19 and 15—*H. or.* viii. 12. 27—*Barr.* 20. 3—(Also *Lob. ic.* i. 19. 2—*Ger. em.* 21. 6, and *Park.* 1267. 8. Dr. GOODENOUGH.)

Straw 3-cornered, angles acute, rough. Spike compound, often doubly so. Spikets about ten, the lower ones distant, upper ones near together, egg-shaped, sitting, male florets at the top. Scales shorter than the capsule, which is cloven at the end, and rather diverging. Summits 2. This species differs from *C. vulpina* by its spike never being more than doubly compound, and by the straw not being enlarged under the spike: from *C. divisa* by its fibrous root, its diverging capsules, and its want of an upright floral leaf: from *C. stellulata* by its numerous and contiguous spikets, and its capsules being cloven at the end. GOODENOUGH. Linn. Tr. ii. 158. Straw with or without a floral-leaf. HUDSON. Six to fourteen inches high. Spike hardly one inch.

Var. 2. More slender, spike less compound. Straw less rough, and at the bottom roundish.

Barr. 19—*Mich.* 33. f. *R-Scheuch.* 11. 5. Dr. GOODENOUGH.

(Greater prickly Seg. E.) Spiked Seg. *C. Spicata.* HUDSON, LIGHTFOOT, &c. Watery places: banks of rivers, woods.
P. May—June.

16. C. Spike doubly compound, long, somewhat branched divulsa. at the base: lower spikets distant, upper ones near together: capsules rather upright.

E. bot. 629—*Barr.* 20. 2—*Mich.* 33. 10, and 11.

Root fibrous. Straw 3-cornered, angles acute, roughish. Spike interrupted. Spikets many, egg-shaped, male florets at the top: floral leaves, bristle-like, rough. Scales longer than the capsules, with an awn at the end. Capsules cloven at the end. Style short. Summits 2. The Capsules being not quite upright, but yet not diverging, distinguishes this from starved specimens of the *C. vulpina*, as figured by Leers, 14. 3. GOODENOUGH. Linn. Tr. Floral-leaves, that from the base of the lowermost spiket very narrow, and hair-like. Leaves sometimes

TRIANDRIA. MONOGYNIA. *Carex*:

as long, or longer than the straw. *Straws* nine inches to a foot high, slender, somewhat reclining on the ground. *Spike* long, interrupted. *Spikets* six or seven, small, sitting, the lower ones considerably distant. RAY. *Spike* very frequently if not generally, branched at the base; the branch supporting two or three spikets, and reaching to the insertion of the next spiket above. ST.

Grey Seg. C. canescens. Hudson not of Linnæus, Leers, or Lightfoot. ST. Moist shady places. [Common in woods and hedges in Norfolk and Suffolk. Mr. WOODWARD.—Also in meadows. ST.] P. May—July.

vulpi'na.

17. C. Spike more than doubly compound, compact though branched, blunt: spikets male at the top: capsules diverging: straws with very acute angles.

Var. 1. Spike doubly compound, floral-leaves awned. ST.

Leers 14. 5—*H. ox.* viii. 12. 24—*Mich.* 33. 13.

Var. 2. Spike compact, floral-leaves awned. ST.

Mont. F. H. Scirpoides—*Lob. ic.* 19. 1—*Ger. em.* 21. 5—*Park.* 1266. 7—*Ger.* 19. 5—*C. B. th.* 87—*J. B. ii.* 497. 1.

Var. 3. Spikes less compact; floral-leaves pointed. ST.

Leers 14. 3—*Fl. dan.* 308.

Smaller than the preceding, which in many respects it very much resembles. *Spikes* smaller and less compact. *Straws* less upright. *Leaves* narrow, and shorter than the straw. RAY. *Root* fibrous. *Straw* thickest at the spike, not so tall as the leaves. *Spike*, a floral leaf at the base of each branch. *Scales* rather longer than the capsules. GOODENOUGH. *Straw* thick, firm. *Spike* thick, rough on all sides. *Leaves*, the sheaths terminated by a pointed tongue as in the Grasses. LINN. *Leaves* bright green, set with minute teeth pointing upwards, in a thick tuft. *Stems* one to two feet high, 3-square, the sides somewhat concave, the angles sharp, and near the spike set with minute teeth pointing upwards. *Spike*, or rather *panicle*, short and close. *Spikets* short, numerous, the upper without floral-leaves, or with a scale broader than the rest at the base. *Floral-leaves* sometimes wanting, that at the base of the lowermost spiket, stiff, triangular, awl-shaped, half embracing the stem at the base, membranaceous at the edge, the upper part green, set with minute sharp teeth, the whole turning brown as the spike ripens; those at the base of several of the lower spikets similar, but smaller. *Scales* similar in colour, egg-shaped, broad at the base, tapering into an awn. *Barren flowers* in the upper part,

and the *fertile flowers* in the lower part of each spiket. *Summits* 2; deeply divided. *Capsules* obscurely triangular, cloven at the end. Mr. WOODWARD.

Great Seg. Marshes and banks of rivers, common. [In a bog at the source of the Yar in the Isle of Wight.]

P. May—June.

18. C. Spike (or branched panicle) more than doubly paniculata. compound, acute: branches alternate, rather distant: capsules expanding: straw 3-cornered.

E. bot. 1064—*Fl. dan.* 1116—*Scheuch.* pr. 8. 2—*Leers* 14. 4—*H. ox.* viii. 12. 23—*Mich.* 33. 7.

Root fibrous, many male florets in the upper spikets, about four in the lower ones. GOODENOUGH. *Stems* numerous, one to four feet high, naked above, 3-square, minutely serrated at the edge. *Root-leaves* in a thick tuft, sometimes taller than the stems, terminating in a stiff thorn-like point; minutely serrated and cutting at the edge. *Bunch* two to three inches long, branched below, usually terminating above in a simple spike; the branches one half to one inch long, with numerous small roundish spikets, closely crowded. *Floral-leaves* awl-shaped, short, usually one at the base of the lowermost branch, and sometimes to one or two of those above. *Scales* egg-shaped, blunt at the end, deep brown, closely embracing the capsules. *Summits* 2. *Capsules* longer than the scales, obtusely triangular, tapering to a sharp cloven point. Mr. WOODWARD.

Great Panicked Seg. Bogs and watery places. P. June.

Var. 2. Bunch simple; branches distant.

Spikets, the lower distant, the upper crowded. The colour of the scales and capsules, the foliage and stem prove it to belong to *C. paniculata*. Mr. WOODWARD.—Cultivated in a rich wet soil, the bunch became as much branched as in the preceding. GOODENOUGH.

19. C. Spike more than doubly compound, branched but teretiuscula. compact, rather acute: spikets crowded, M. florets at the top: capsules expanding: straw roundish.

Linn. Tr. ii. 19. 3—*E. bot.* 1065.

Root fibrous. *Straw* when in flower but one third the length of the leaves: in seed twelve or eighteen inches high; 3-cornered, angles rough, acute, but the sides have a longitudinal projection which gives the whole a rounded appearance. *Leaves* rigid, sheathing nearly half the straw, rough on the keel

and at the edges. *Spike* egg-oblong, rather pointed. *Floral-leaf*, the lower one very short, ending in an awn; shorter than the spiket. *Spikets* and their spiculæ egg-shaped, pointed, sitting. *Male florets* uppermost numerous. *Female* about six; placed below. *Capsules* rough at the edges, expanding when ripe, longer than the scales. *Summits* 2. GOODENOUGH. in Linn. Tr. ii. 163. who observes that it approaches *C. paniculata*, but is only half the size of that in all its parts.

Lesser Panicked Seg. Marshes near Norwich, discovered by Mr. CROWE. [At Fulbourne. Rev. Mr. REILHAN] (Bogs at Llansadwrn and Llandeg-fan, Anglesea. Rev. H. DAVIES. *Bot. Guide.*—Marshes at Caister and Mautby, near Yarmouth, and Bradwell Common, Suffolk. Mr. WIGG.—Arram Car, near Beverley. Mr. TEESDALE.—Bogs near Rippon. Mr. BRUNTON. ditto. E.) P. May.

(3) *Spikes one male, the others female: floral leaves membranaceous*

digita'ta.

20. *C.* Sheaths membranaceous, not leaf-like, inclosing half the fruit-stalk: spikes strap-shaped, upright, male spike shortest: capsules distant.

E. bot. 615—*Leers* 16. 4—*Mich.* 32. 9—*Scheuch.* 10. 14—*C. B. pr.* 9. 2; *th.* 48.

Root fibrous. *Leaves* longer than the straw when in flower, rough at the edge, quite smooth on the keel. *Female spikes*, of about seven florets. *Capsules* pubescent, not cloven. *Summits* 3. GOODENOUGH. *Leaves* in a thick tuft. *Stems* obscurely triangular, slender, not rough, one half to one foot high, entirely naked, except some reddish brown leafy sheaths at the base. *Barren spike* half an inch long, closely tiled, from the same sheath with the uppermost fertile spike, and being shorter, over topped by it. *Scales* numerous, yellowish brown, membranaceous and shining at the ends, and so bluntly rounded as to seem lopped. *Fertile spikes* three or four, alternate, distant, about an inch long, on fruit-stalks. *Florets* alternate, distinct. *Scales* like those of the barren spikes, as long as the capsules. *Capsules* obscurely triangular, tapering to a blunt point. *Style* divided half way down into three summits. WOODWARD.

Fingered Seg. Woods and shady places. Near Bath, Mr. SOLE.—(Under St. Vincent's Rocks, Clifton, on the south side of the river. Mr. CLAYFIELD. *Bot. Guide.*—Mackershaw wood, Yorkshire. Mr. BRUNTON.—Thorpe-arch wood. Sir T. FRANKLAND.—Friery wood, Hinton abbey, Somersetshire. ditto. E.)

P. May—June.

21. C. Sheaths membranaceous, not leaf-like; female clandestina. spikes distant, hardly higher than the sheath.

E. bot. 2124—*Scheuchz.* 10. 1—*Mich.* 32. 8.

Root fibrous. *Leaves* slender, better than thrice the length of the straw, channeled, rough on the keel and the edge towards the points. *Straw* roundish, flattened on one side, smooth. *Spikes* one male, three female, all distant. *Male spike* terminating, acute, oblong, half an inch long. *Female spike* oblong, few flowered, on fruit-stalks. *Sheaths* to each spike often involving part of the spike as well as the fruit-stalk. *Capsules* entire at the end. *Summits* 3, long. GOODENOUGH.

Dwarf Silvery Carex. St. Vincent's rocks, Bristol, found by Mr. SOLE. P. April.

- (4) *Spikes, one male, the others female. Floral-leaves leaf-like, generally sheathing the fruit-stalks.*

22. C. Sheaths long, inclosing all the fruit-stalk; spikes pen'dula. cylindrical, very long, pendant; capsules much crowded, egg-shaped, acute.

Curt. 180—*Bar.* 45—*H. ox.* viii. 12. 4.

Root fibrous. *Plant* from two to six feet high. *Male spike* terminating, two to four inches long. *Female spikes* on fruit-stalks, four to six inches long, pendent. *Summits* 3. Dr. GOODENOUGH. The size of the plant, and the very long and pendulous spikes render any further description unnecessary.

Pendulous Seg. Moist woods and hedges between Hampstead and Highgate, and between Marybone and Kilbourn, [Near Woodbridge, Suffolk. Mr. WOODWARD.—Witchery Hole, near Ham Castle, Worcestershire.—Wood between Buildwas Inn and the Birches, Shropshire. St.—By the Tees, near Croft. Mr. ROBSON.] P. May—June.

23. C. Sheaths long, inclosing all the fruit-stalk: spike strigo'sa. thread-shaped, limber, turning downwards; capsules oblong, rather 3-cornered, acute.

Linn. Trans. ii. 20. 4—*E. bot.* 994.

Root fibrous. *Straw* two feet high, or more, taller than the leaves, 3-cornered, angles acute, smooth. *Leaves* broad, rough at the edge and on the keel. *Male spike* two inches long, cylindrical, slender, straight, terminating. *Female spikes* about

seven, very slender, distant, on fruit-stalks; at first upright, then hanging down; the upper ones often having a few male florets at the end. All the spikes sheathed at the base, sheath longer than the fruit-stalks. *Capsules* entire at the rim, when full grown near twice as long as the scales. *Summits* 3. **GOODENOUGH.** *Flowers* thin, irregularly scattered. *Scales* membranaceous, pale brown, with a green keel. *Capsules* 3-cornered, brownish green, ribbed, tapering regularly to a point at each end, but not taper pointed as in *C. sylvatica*. **WOODWARD.** Differs from *C. sylvatica* in its fruit-stalks, being hardly longer than the sheaths, and its capsules being 3-cornered and acute, but not with a long taper point. **GOODENOUGH.**

Loose Seg. *Slender-eared broad-leaved Cyperus-grass with many spikes.* **R. SYN.** Woods and hedges. In a lane near Black Notley, Essex. [Woods near Oxford. **MR. NEWBERRY.** Lane-wood and Shortwood, Pucklechurch, Gloucestershire. **MR. SWAYNE.**—In a wood at Hedenham, Norfolk. **MR. WOODWARD.**] (Old Hut Woods, near Liverpool. **DR. BOSTOCK.** E.)

P. April—May.

præ'cox.

24. *C.* Sheaths short, inclosing nearly all the fruit-stalk; spikes near together; male spike club-shaped; female, egg-shaped; capsules roundish, pubescent.

Dicks. h. s.—Jacq. austr. 446—*Er. bot.* 1099—*Lob. ic* i. 10; the upper fig. on the right hand with 3 spikes.—*Ger. em.* 22. 8, the upper fig.—*Park.* 1160. 8.—(the lower fig. is a single-spiked variety, which I have found, occurring now and then. **DR. GOODENOUGH.**)

Root creeping. *Straw* six to twelve inches high, leafless, 3 cornered, angles smooth. *Leaves* shorter than the straw, wide-spreading, somewhat channeled, strap-shaped, pointed, rough on the keel and at the edges. *Spikes* one male, from one to three females, but mostly two; near the top of the straw and not far asunder. *Scales* membranaceous, rust-colour, about as long as the capsules. *Fruit-stalk* of the female spikes short, encompassed by a sheathing leaf of the same length, which hardly ever exceeds the height of the straw. *Capsules* cottony, egg-shaped, rather 3-cornered, mouth undivided. *Summits* 3. **JACQUIN** and **GOODENOUGH.** Easily distinguishable from the *C. pilulifera* and *saxatilis* of **Hudson**, by its spikes having short peduncles encompassed by a sheath of the same length, **Mr. Hudson's** plants having no sheath. **GOODENOUGH.** From two to ten inches high. The smaller specimens with stiff recurved leaves, have much the appearance of *C. rigida*, but in that the straw is rough, the flower scales black, the capsules

smooth and the summits only two; whilst in this the straw is smooth, the scales chesnut coloured, the capsules cottony, and the summits three.

Vernal Carex or Seg. On wetish heaths, and poor soiled meadows, common. P. April—May.

25. C. Sheaths short, inclosing nearly all the fruit-stalk: filiformis. male spikes generally 2, strap-shaped: female spikes egg-shaped, distant; capsules hairy.

Linn. Tr. ii. 20. 5—E. bot. 904—Scheuch. 10. 11.

Root creeping. *Straw* upright, slender, about the length of the leaves, 3-cornered, angles acute, rough. *Leaves* slender, upright, very fine at the end, one to three feet high, roughish at the edge and on the keel. *Spikes* generally two male, and two female. *Male spikes*, the upper one, one inch and half to two inches long, the lower hardly one inch, both slender. *Female spikes* mostly two, the upper one often sitting; sometimes one on a very short fruit-stalk, upright, egg-shaped. *Sheath* short, but entirely inclosing the fruit-stalk, ending in a leaf which is hardly so high as the straw. *Scales* oblong, acute, about the length of the capsule. *Capsule* hairy or woolly, 3-cornered, mouth open, cloven. *Summits* 3, hairy, rather thick. The great length of its slender leaves, its almost woolly capsules, and the male spikes never being more than two, readily distinguish it from every other *Carex*. GOODENOUGH. L. Tr. 172. *Female spikes* oblong; sometimes three of each sort, but then the male spikes are hardly half an inch long. *Straw* rough only above the spikes.

Downy Seg. Slender-leaved Carex. C. tomentosa. Lightfoot. At Eaton, Shropshire, found by the Rev. Mr. WILLIAMS.—South end of Ayr Links. Dr. HOPE.—[Shortwood near Pucklechurch. Mr. SWAYNE.]—(Near Stoke, Norfolk. Rev. Mr. FORBY.—Peat Bogs, Anglesea. Rev. H. DAVIES. *Bot. Guide.*—Bogs at Lound, Suffolk. Mr. D. Turner.—Common in the marshes about Beverley. TEESDALE. E.) P. June.

26. C. Sheaths short, inclosing nearly all the fruit-stalk; flava. the upper leaf-like part diverging; M. spike strap-shaped; F. spike roundish; capsules beak-pointed.

Fl. dan. 1047—*E. bot.* 1294—*Leers* 15. 6—*J. B.* ii. 498. 1—*C. B. th.* 109—*Lob. ic.* 15. 1—*Ger. em.* 17. 1—*Park.* 1187. 2—*H. ox.* viii. 12. 19.

Root creeping. *Leaves* longer than the straw, rough on the keel and edges. *Male spike* single, terminating, slender, half to one inch long. *Female spike* either all crowded together near the male, or one of them lower down, or as is mostly the case, all of them at some distance apart. *Sheath* about as long as the fruit-stalk, ending in a leaf standing out, and longer than the straw. *Capsules* 3-sided, longer than the scales; beak rather bent, mouth generally entire, and pointing downwards. **GOODENOUGH.** *Stem* two inches to a foot high, numerous, declining, in the smaller plants leafy up to the spike, but in the larger usually naked upwards, triangular, smooth. *Leaves* pale yellowish green. *Barren spike* closely tiled. *Scales* numerous, bluntly oval, with one longer and larger, pointed and sometimes awned at the base. *Fertile spikes* three or four, at first roundish, afterwards oval; scales oval spear-shaped, yellowish brown, with a green keel and membranaceous edges; the lower on fruit-stalks, the upper sitting, in the small plants from the bosom of the leaves, and the lowermost sometimes almost at the root. *Floral-leaves*, in the larger plants three at the base of the lowermost long, expanding, those above shorter, bent back. *Capsules* short and thick, tapering to a point, pale greenish yellow. *Style* divided nearly to the base into three summits. **WOODWARD.** *Male spike* has sometimes female florets at its base. **ST.** The length and the horizontal direction of the floral leaf, together with the globular heads of pointed capsules, render the investigation easy. The long tapering point of the capsules distinguishes this from the *C. extensa*. **GOODENOUGH.** *Female spikes* from two to four.

Yellow Seg. Marsh Hedge-hog Grass. Marshes and wet meadows, common. **P. May—June.**

Var. 2. Lower sheath inclosing but half the fruit-stalk, upper ones nearly the whole. *Female spikes* 2, oblong, acute. *Capsules* beak-pointed.

Linn. Tr. ii. 20. 6-E. bot. 1295.

Root creeping. *Straw* slender, upright, nearly a foot high, 3-cornered, angles acute, rough. *Leaves* upright, narrow, rough at the edge and on the keel, shorter than the straw. *Male spike* 1, terminating, slender, pointed, half an inch long or more. *Female spikes* 2, (very rarely 3,) often distant, egg-oblong, acute, lower one on a longish fruit-stalk, upper one nearly sitting. *Floral-leaf*, lower one upright, as tall as the straw, sheathing about half the fruit-stalk. *Capsules* somewhat 3-cornered, expanding, but not diverging, beak-pointed and cloven at the end, fully as long as the scales. *Summits* 3. *Carex fulva.* Goodenough. *Linn. Tr. ii. 177.* Dr. Goodenough, since the publication of

the above memoir, authorizes me to say, that having cultivated the *C. fulva* he is convinced of its being only a variety of the *C. flava*. (Dr. Smith still considers it a distinct species. E.)

Yellowish or Tawny Seg. Eaton near Salop, found by the Rev. Mr. WILLIAMS. [Cherry Hinton Fen, Cambridgeshire, and on the borders of Llyn Idwell Lake, Carnarvonshire. Mr. GRIFFITH.] P. June—July.

27. *C.* Sheaths very short, inclosing all the fruit-stalk, the upper leaf-like part somewhat reflected; spikes crowded; female spikes nearly globular; capsules egg-shaped, acute. exten'sa.

E. bot. 833—*Linn. Tr.* ii. 21. 7.

Straw a foot high or more, 3-cornered, angles bluntish, smooth. *Leaves* narrow, towards the ends rough at the edge and on the keel. *Male spike* 1, slender, half an inch long, terminating. Sometimes there is a second male spike, which is much shorter. *Female spikes* generally crowded at the base of the male, but sometimes the lower one is at a considerable distance, egg-shaped, or conical, pointed, on short pedicles. *Scales* egg-shaped, dagger pointed. *Floral-leaves* at the base of the female spikes, entirely sheathing the short fruit-stalk, ending in a leaf as tall or taller than the straw, but at length reflected. *Capsules* smooth, expanding, egg-shaped but somewhat 3-cornered, twice as long as the scale, pointed and cloven at the end. *Summits* 3. Taller, more slender, and the leaves narrower than in *C. flava*. Rev. Dr. GOODENOUGH, *Linn. Tr.* ii. 175.

Long Bracteated Carex. *C. flava*. var. β HUDS. (*C. Oederi*. Mr. DAWSON TURNER. This plant is certainly the *C. extensa* of the Flora Cantabrigiensis, and *C. Oederi* of E. bot. 1773. Mr. Relhan informs me that he has long remarked it as not uncommon on Hinton and Shelford Moors. E.) Marshy ground near Harwich, and on the west side of Braunton Burrows, in the north of Devon. GOODENOUGH. (The Park, near Liverpool. Dr. BOSTOCK.—Cley Beach, Norfolk. Rev. Mr. BRYANT.—Bottisham Load, and in a ditch crossing the path to Stapleford near the Nine Elms, Cambridgeshire. RELHAN. E.)

28. *C.* Lower sheath inclosing about half the fruit-stalk; upper ones nearly the whole; spikes oblong, very far asunder; capsules acute. dis'tans.

Fl. dan. 1049—*E. bot.* 1234—*H. or.* viii. 12. 18.

Root fibrous. *Straw* 1 to 2 feet high, 3-cornered; angles acute, smooth. *Leaves* rough on the edge and the keel. *Male spike* 1, sometimes 2, terminating, slender, about 1 inch long. *Female spikes* 3, egg-oblong, an inch in length, on fruit-stalks,

far asunder. *Sheath*, the lower one embracing fully half, the upper ones the whole of the fruit-stalk; ending in a leaf shorter than the straw. *Capsules* rather 3-cornered, tapering to a point, slightly cloven at the end, longer than the scales. *Summits* 3. *C. hirta* has the female spikes far asunder, as in this species, but it has hairy leaves and capsules. **GOODENOUGH.** When there are 2 male spikes the under one is much the smallest, and the upper female spike has sometimes stameniferous florets at the top. In a young state the lower spike as well as the others, has its fruit-stalk entirely enveloped in the sheath. The distance between the female spikes increases considerably after the flowering commences, so that that part of the character is not striking when the plant first commences its inflorescence; but **Dr. Goodenough**, who has been so successful in elucidating this heretofore obscure tribe of plants, observes to me, that it is sufficient if the characters apply when the plant is in its most complete state of inflorescence, so complete that the capsule shall have assumed its proper shape. It sometimes bears only 2 female spikes.

Loose Seg. Marshes. [Edge of Giggleswick Tarn, and near the tops of the highest mountains in Yorkshire. **CURTIS.** Bogs about Manchester, common. **Mr. CALEY.** (At Yarmouth, Norfolk. **Dr. SMITH. E.**) In the bog at the source of the river Yar, in the Isle of Wight. **P. May—June.**

(biner'vis.

29. *C.* Sheaths elongated, shorter than the fruit-stalks; spikes cylindrical, remote, often compound; scales pointed; fruit with two principal ribs.

E. bot. 1235.

Larger than *C. distans*, with a firmer stem, of a deeper green colour, with a glaucous tinge. *Spikes* of a blackish hue. *Leaves* upright, broadish, sharp-pointed, edge and keel rough. *Bractæ* much like the leaves, elongated, upright, further sheathed, remote. Lowermost *female spikes* generally branched or compound at the base, and their stalk projects considerably beyond the leaf of the bractæ. Their *scales* are almost black, with a 3-ribbed green rough keel and point. The essential character resides in the *fruit*, which has 2 principal ribs or nerves (besides several small ones) greener than any other part, running longitudinally at some distance from the margin, on the outer side only. The inner side of the fruit is most stained with purple, and has many uniform ribs. *Stigmas* 3. *Seed* with three decidedly flat sides, whitish.

Green-ribbed Carex. Near Rippon. **Mr. BRUNTON.**—About Edinburgh. Very common on the dry moors about Aberdeen. **Pro. BEATTIE.**

P. June. *Linn. Trans. Fl. Brit. and E. bot. E.*)

30. *C.* Lower sheath inclosing about half the fruit-stalk; panî'cea. upper ones nearly the whole; spikes slender, upright, far asunder; capsules inflated, bluntish, rather distant.

E. bot. 1505—*Leers* 15. 5—*Mich.* 32. 11—*Fl. dan.* 261.

Leaves roughish at the edge and on the keel. *Female spikes* 3, distant from each other, florets thinly set. *Sheaths* ending in leaves shorter than the straw. *Capsules* compressed at the base, swelling out upwards, bluntish, mouth entire, closed. When young it much resembles the *C. recurva*, but may be readily distinguished by the sheaths, the lower one in the *C. panicea* being half as long as the fruit-stalk, but in *C. recurva* only one quarter the length. GOODENOUGH. *Root* creeping, throwing out bundles of leaves and stems from the joints. *Stems* bluntly triangular, smooth, 12 to 18 inches high. *Leaves* smooth, sea-green, shorter than the stem. *Barren spike* terminating, more than an inch long, closely tiled. *Scales* oval. *Fertile spikes* mostly 2, upright, loosely tiled. *Fruit-stalks* long, slender, each from a joint. *Floral-leaves* sheathing, 1 at the base of each fruit-stalk, as long as the spike which belongs to it. *Flowers* alternate, many abortive. *Scales* egg-shaped, or egg-spear-shaped, not above half as long as the capsule. *Summits* 3. *Capsules* oval, bluntly pointed. WOODWARD.

Pinky Seg. Moist meadows and pastures. [Frequent in Suffolk. Mr. WOODWARD.—On Dartmoor, common.]

P. May—June.*

31. *C.* Sheaths inclosing half the fruit-stalk; female spikes capilla'ris. oblong, limber, pendent when ripe; fruit-stalk hair-like; capsules tapering to a point.

E. bot. 2069—*Dicks. h s.*—*Fl. dan.* 168—*Scop.* 59.

Root fibrous. *Straw* 2 to 5 inches, upright, 3-cornered, angles smooth. *Leaves* very slender. *Male spike* single, terminating, slender, of very few flowers. *Female spikes* 2 (or 3) few-flowered. *Capsules* egg-shaped, beak-pointed, entire at the end, longer than the scales, which are deciduous. *Summits* 3. The small size of this plant, its fine slender fruit-stalks, its pendulous female spikes with 4 to 8 florets, and its deciduous scales, are characters amply sufficient to distinguish it. GOODENOUGH.—Smaller, narrower and more delicate than *C. pallescens*. *Straw* when in flower shorter than the leaf, scarcely a finger's breadth high, with a single leaf, with 4 upright spikes at the end, 1 bar-

* *Capsules* often affected with the smut, in which case they are globular, larger, black, full of a mealy powder. Almost all the other species are liable to the same disease, but in this it is as common as it is rare in the rest. LINN.

ren and 3 fertile; but some time after it becomes a span high, thread-like, upright, with a single sheathing leaf shorter than the stem; and when the fruit is ripe a foot in height. *Spikes* on fruit-stalks; the *fertile* ones mostly 3. *Floral-leaves* gradually smaller upwards, the uppermost hardly leafy. The *barren* and the uppermost *fertile spike* from the same point. *Capsules* brown, alternate, remote, distant, fixed to hair-like pedicles. *Scales* falling off when the capsules ripen. LINN. (*Leaves* scarcely two inches long, mostly radical, narrow, acute, dark green, slightly keeled, rough edged towards the top only. *Fruit* dark-brown, ovate, triangular, smooth, with a sharp beak. *Seed* elliptical, with three sharp angles. *E. bot.* E.)

Capillary Seg. In pasture grounds at Alpine Heights. (In bushy moist places, E.) on Benteskerney and Maighyrdy in Glenlochail. Also on Ben Lawers and on Craig Cailleach, both in Breadalbane. Mr. BROWN.—(Whey Sike, and Croukley Fell, and Widdy Bank, Durham. Rev. J. HARRIMAN. *Bot. Guide.*—About the Malvern Hills. DUNCUMB. E.)

P. July—Aug.

depaupera'ta. 32. C. Sheaths inclosing less than half the fruit-stalk; female spikes distant, few-flowered; capsules egg-shaped; inflated, beak-pointed.

Curt.—E. bot. 1098—*C. ventricosa—Mich.* 32. 5.

Root fibrous. *Straw* 1 to 2 feet high, 3-cornered, angles smooth, bluntish. *Leaves* shorter than the straw, rough on the edge and the keel. *Male spike* single, terminating slender. *Female spikes* on long fruit-stalks, far asunder, with 3 to 6 florets, not crowded together. *Sheath* enfolding about a third of the length of the fruit-stalk, ending in a leaf which is generally taller than the straw. *Capsules* often in two rows, about twice the length of the scales; mouth entire. *Summits* 3. GOODENOUGH. *Male spike* half to three quarters of an inch long. *Female spikes* about 3. *Capsules* only 2 or 3 on a spike, distant, about the size of hemp-seed. WOODWARD.

Charlton Seg. Starved Wood Carex. *C. ventricosa.* CURTIS. First found by Dr. GOODENOUGH in Charlton Wood, near Dover, and since by Mr. DICKSON in dry woods near Godalmin in Surry.

P. May—June.

sylva'tica. 33. C. Sheaths short; spikes thread-shaped, limber, pendent; capsules egg-shaped, ending in an awn-like beak.

Dicks, h. s.—E. bot. 995—*Leers* 15. 2—*H. ox.* viii. 12. 9—*Fl. dan.* 404.

Sheaths inclosing about a quarter of the length of the fruit-stalks. GOODENOUGH. *Male spike* with sometimes an intermixture of female florets; 3-square. Its pendent spikes, the pale yellow green of its leaves, and the bend of its stem, which seems to form part of an elliptical curve, give it a very pleasing appearance, and render it one of the most elegant ornaments of our woods. *St.* Root creeping. *Leaves* in tufts from the joints of the root, yellowish green, about one fourth of an inch wide, rough to the touch. *Stems* numerous, in tufts, 12 to 18 inches high, triangular, rough at the edges, leafy. *Fertile spikes* 4 or 5, distant, when in seed pendent, one to one and a half inch long, loosely tiled. *Flowers* alternate. *Capsules* smooth, triangular, with obscure edges, and a beak nearly as long as the capsule; cloven at the end. *Style* divided almost to the base into 2, and sometimes into 3 summits. *Barren spikes* terminating, about an inch long, slender, closely tiled. MR. WOODWARD.

Wood Seg. *C. vesicaria* β LINN.—Woods, common.

P. May—June.*

34. *C.* Sheaths short; female spikes nearly cylindrical, recur'va, pendent; capsules roundish, egg-shaped; roots creeping.

E. bot. 1506—*Leers* 15. 3—*Fl. dan.* 1051—*H. or.* viii. 12. 14.

Straw triangular, angles smoothish, sea-green, about a foot high. *Leaves* the same glaucous green at the stem; very rough on the keel and the edges. *Male spike* 1 or 2, rarely 3, terminating, slender, about an inch long. *Female spikes* 3, the same length but thicker, on long fruit-stalks, pendent when ripe; far asunder. *Sheaths* inclosing scarce a fourth part of the length of the fruit-stalk, broad at the base, but ending in a leaf often taller than the straw. *Capsules* egg-shaped, indistinctly 3-sided, bluntish, a little cottony, closed at the mouth, rather longer than the scales. *Summits* 3, thick, downy. Varies much in size and habit, but the pendent black female spikes, the glaucous leaves, the short sheaths, the roundish capsules, the smoothish straw, and the creeping root, are obvious distinctions. GOODENOUGH.

Heath Seg. *Glaucous Heath Carex.* Moist meadows, pastures, heaths, and woods. [Wet woods in the New Forest, plentiful. Pastures near Thornbury, Gloucestershire.]—(MR. BORRER (in *Bot. Guide*) remarks that it occurs every year in the Withy Copse, West Town, Sussex, with branched spikes. *E.*)

P. May—June.

* (The Laplauders prepare a coarse covering from this plant. LINN. *E.*)

- palles'cens. 35. C. Sheaths extremely short; female spikes rather cylindrical, pendent when in fruit; capsules oblong, blunt.

Dicks. h. s.—E. bot. 2185—*Fl. dan.* 1050—*Pluk.* 34. 5—*Mich.* 32. 13—*Leers* 15. 4.

Root fibrous. *Leaves* narrow, rough on the keel and the edge, (slightly) hairy. *Male spike* single, terminating. *Female spikes* 3, all near together, blunt, on fruit-stalks. *Sheaths* not inclosing more than an eighth part of the fruit-stalk, but ending in a leaf much taller than the stem. *Capsules* closely crowded, oblong, blunt, somewhat longer than the scales, mouth entire. *Summits* 3. *Female spikes* when in flower egg-shaped, when fully ripe nearly cylindrical. **GOODENOUGH.** *Stems* many, 1 to 2 feet high, triangular, roughish, leafy below, naked upwards. *Leaves* in bundles from the root, yellowish green, the lower short, the upper nearly as long as the stem. *Barren spike* half to three quarters of an inch long, slender, closely tiled, with sometimes a single fertile flower at its base. *Scales* oval-spear-shaped. *Fertile spikes* 1 to 3, the lowermost on a very short slender fruit-stalk. *Scales* oval, pointed. *Summits* 3. *Capsules* oval, pale yellowish green. **MR. WOODWARD.**

Pale Scg. Moist meadows and pastures. [Woods on a moist clayey soil in Norfolk and Suffolk, frequent. **WOODWARD.**—Wet woods in gravelly soil in the New Forest.] *P.* May—June.

- limosa. 36. C. Sheaths hardly any; female spikes egg-shaped, pendent; capsules egg-shaped, compressed; roots creeping.

E. bot. 2043—*Fl. dan.* 646—*Wilden.* 1. 4—*Scheuch.* 10. 13.

Root jointed, throwing out at the joints long fibres, and tufts of leaves and stems. *Leaves* long, bright green, rough, the uppermost nearly as long as the stem. *Stems* slender, triangular, rough. *Barren spike*, *Scales* spear-shaped, the lowermost awned, yellowish brown with a green keel. *Fertile spike* generally single, loosely tiled, on a long slender fruit-stalk. *Scales* oval-spear-shaped, taper pointed, of a very rich shining brown, with a yellowish green keel. *Floral-leaves*, one at the base of the lowermost spike, if more than one; very slender, about an inch long. *Capsules* oval, bluntish, bright sea-green. *Summits* long. **WOODWARD.** Distinguished from *C. recurva* by its very short sheath, its egg-shaped female spike, and by the shape and colour of its capsules, which are brown when ripe and not black. **GOODENOUGH.** *Male spike* single, slender, not an inch long. *Capsules* rather longer than the scales, taper pointed, entire at the end. *Summits* 3. *Female spikes* 1 or 2, few-flowered.

Brown Seg. Green and Gold Carex. C. elegans.
Willdenow. **WOODWARD.**—Peat bogs and marshes, Yorkshire,
Lancashire, Westmoreland, &c. frequent. **HUDSON.**—Tullyban-
char, half a mile west of Comrie near Crief. **Mr. STUART** in *Fl.*
Scot.—[Heydon, Norfolk. **BRYANT.**—St. Faith's Newton Bogs.
WOODWARD.—Moss of Restenet, Scotland. **Mr. BROWN.**—Peat
bog on Mendip Hills. **Mr. SWAYNE.**] P. June.

37. *C.* Sheaths hardly any; female spikes cylindrical, on pseudo-
fruit-stalks, pendent; capsules awn-beaked, rather cypærus.
diverging.

Fl. dan. 1117—*E. bot.* 242—*Dod.* 339—*Lob. ic. i.* 76. 2—*Ger.*
em. 29. 2—*Park.* 1266. 4—*C. B. th.* 85—*J. B. ii.* 496. 3—
H. or. viii. 12. 5.

Floral-leaves nearly bristle-shaped. *Capsules* when ripe bent
back, awl-shaped, scored, tapering and ending in a double thorn
or awn. **LINN.** *Stem* one and a half to three feet high, leafy
below, naked above, triangular, edged with sharp teeth, with a
joint near the top. *Leaves* forming thick tufts, long, broad,
finely toothed, edges cutting. *Floral-leaves* similar to the other
leaves, the lowermost broad, often more than a foot long, at the
joint at the top of the stem, those above narrower and shorter.
Fertile spikes from the bosom of the floral-leaves, at a small
distance one above the other, sometimes two together, the lower-
most on a long slender fruit-stalk, when in flower upright, when
in fruit pendent, from 3 to 5, all rising to nearly the same
height; *scales* green, awl-shaped, longer than the capsules,
finely toothed at the edges, and on the back. *Capsules* pale
green, spear-shaped, obscurely 3-square, elegantly ribbed.
Style divided into 3 *summits*, scarcely longer than the awns of
of the capsule. *Barren Spike* terminating, 2 inches long. *Scales*
closely tiled, yellowish brown, terminated by a long awn, tooth-
ed like the stem, and longer than the filaments. **WOODWARD.**
Root fibrous. *Capsules* rather bellying in the middle. The
minuteness of the sheaths, the long points, and the wide strad-
dling of the capsules, are sufficient to distinguish it. The in-
termediate fruit-stalks are sometimes found doubled. **GOO-**
ENOUGH. *Stem* triangular. *Male spike* smooth at bottom, 2
inches long, or more. *Female spike* 1 to nearly 3 inches. *Cap-*
sules when young pointing upwards, but expanding, when more
advanced horizontal, when quite ripe pointing downwards.

Bastard Seg. Moist shady places, banks of pools and
ditches, common. P. June.

atra'ta.

38. C. Sheaths hardly any; all the spikes with male and female florets; upper spikes on fruit-stalks, when in fruit, pendent; capsules egg-shaped, rather pointed.

E. bot. 2044—*Fl. dan.* 158—*Scheuch.* 11. 1 and 2.

Root fibrous. *Straw* 3-cornered, a foot high, angles acute, roughish. *Leaves* broad, shorter than the straw, rough at the edge and on the keel. *Upper spike* mostly female, the lower part only male, with an intermixture of hermaphrodite florets; which is often the case with the others. *Spikes* oblong, acute, half an inch high, on long fruit-stalks, near together; pendent when ripe. *Scales* black, with a green keel; rather longer than the capsules. *Floral-leaf*, 1 to every spike, leaf-like, inclosing a very small part of the fruit-stalk. *Capsule* green, egg-shaped, often acute, compressed, slightly cloven at the end. *Filaments* 2. *Style* with 3 hairy summits. This should, from the disposition of the male and female florets, have been arranged under the second subdivision, but its habit strongly enforces its present situation. The black egg-shaped spikes, and the want of sheaths are sufficient to distinguish it. *GOODENOUGH.* *Leaves* ash-coloured sea-green, when dried yellowish green. *SCHEUCHZER.* *Spikes* oval-spear-shaped, when in flower rising nearly to the same height, the uppermost without floral-leaves, unequal, frequently 1 or 2 small ones beneath the uppermost; the upper with barren flowers at the base, the rest mostly composed of fertile flowers. *Scales* spear-shaped, black, with a brown keel, but when viewed in a strong light, of an extremely rich reddish brown. *Stamens* 2. *Summits* mostly 3, sometimes 2. *WOODWARD.* (Mr. Sowerby often finds 3 stamens. *E. bot.* E.)

Black Seg. Mountains of Wales about Llanberis, plentifully. Highland mountains, frequent. (On rocks in Breadalbane. Mr. DOW. E.) P. June—Aug.

(pul'la.

39. C. Stigmas 2; sheaths none; spikes egg-shaped, the lower one stalked; capsules egg-shaped, inflated with a short notched beak.

E. bot. 2045—*Linn. Trans.* v. 3. t. 14.

Root thick, creeping. *Leaves* nearly upright, narrow, rough at the edges and on the keel. *Stem* ascending, a span high, 3-sided, the acute angles roughish. *Male spike* terminal, upright, lanceolate, of numerous triandrous flowers. *Female spikes* mostly two, remote, egg-shaped, erect, the lowermost on a rough slender stalk, the upper one almost sessile, shortened as it were, and often wanting. *Glumes* all elliptic-lanceolate, obtuse, dark brown, with a thin, narrow, pale edge and an obsolete nerve. *Fruit* rather spreading, longer than

the corresponding glume, elliptical, inflated, smooth, without ribs, pale at the base, of a dark shining brown at the summit when ripe, and terminating in a short cloven beak. Seed triangular. GOODENOUGH in *Lin. Trans.* and *E. bot.*

Russet Carex. Mountains of Scotland. Ben Lawers. Mr. J. MACKAY. This new species of *Carex* was first fully described and figured in *Linn. Trans.* by the Rev. Dr. GOODENOUGH, present Bishop of Carlisle, and was originally discovered by Mr. Stuart, and by means of Mr. Don, who received it from Mr. Brown, sent to Mr. Dickson. P. July. E.)

40. *C.* Sheaths none; male spike slender, females somewhat globular, sitting, crowded; straw feeble. pilulifera.

Dicks. h. s.—E. bot. 885—*Fl. dan.* 1048—*Leers* 16. 6—*H. ox.* viii. 12. 16—*Pluk.* 91. 8.

Root fibrous. Straw 3 to 6 inches long, or more, feeble, bent, 3-cornered, angles acute, smoothish. Leaves fine yellowish green, slender, shorter than the straw, upwards rough at the edge and on the keel. Male spikes single, strap-shaped, terminating. Female spikes 3, at the base of the male, near together, oblong, acute, more globular when ripe; the 2 lower ones with a short, sitting, green floral-leaf; the upper one with a floral-leaf membranaceous, egg-shaped, keeled, ending in a slender green point. Scales as long as the ripe capsules. Capsules turning black, roundish, somewhat cottony, ending in a short, bluntish, undivided point. Summits 3. The globular form of the female spikes happens from the terminal florets being usually male, and deciduous; as these wither away, the spikes assume their round form, otherwise they are in general oblong. The capsules are somewhat cottony, as in *C. præcox*, but the strap-shaped male spike, the sitting female spikes, and the reclining straw, mark its distinction in all stages of its growth. GOODENOUGH.

Pill-bearing Seg. Round-headed Carex. *C. montana.* fl. Suec. not *C. pilulifera.* Syst. veg. Moist heaths and pastures, not uncommon. [Bath Hills. Bungay, Suffolk. Mr. WOODWARD.—On a dry bank facing Llanbeis village, on the ascent towards Llyn y Cwn. Mr. GRIFFITH.—(The Park, near Liverpool. Dr. BOSTOCK. E.) P. April—June.

- (41. *C.* Sheaths extremely short; female spikes nearly sessile, cylindrical, obtuse; glumes elliptical, acute; fruit downy.

E. bot. 2046—*Leers* 200. t. 15. f. 7.

Root creeping, with long and compound fibres. *Stems* a foot or more in height, erect, naked, with three sharp angles, rough upwards. *Leaves* shorter than the stem, upright, flat, grass green, rough on both sides and at the edges. *Bracteas* leafy, rather spreading, the longest rising somewhat above the stem, with scarcely any sheath. *Male spike* lanceolate, bluntish, with spear-shaped rusty scales having green keels, the upper ones occasionally pointed. *Female spikes* usually two, not very distant, almost sessile, cylindrical, blunt, various in length, their glumes elliptic-ovate, slightly pointed, rusty, with broad green keels. *Fruit* about as long as the scales, crowded, roundish, scarcely at all compressed, and but slightly triangular, green, clothed with short dense whitish down. *Beak* short and cloven. *Seed* pale, obscurely triangular. *E. bot.* It is most akin to *C. præcox* and *pilulifera*, but is much larger, and the *red sheaths* of the radical leaves, as in *C. digitata*, are very striking at first sight. Dr. SMITH in *Lin. Trans.* v. 5. p. 270.

Downy-fruited Carex. This plant has been ascertained by Dr. Smith to be the real *C. tomentosa* of Linnæus, new to the British Botanist, and discovered by Mr. R. TEESDALE, in meadows near Merstone Measey, Wiltshire. (P. June. E.)

rigida.

42. *C. Summits* 2; sheaths none; spikes oblong, nearly sitting; leaves rigid, bent.

E. bot. 2047—*Fl. dan.* 159—*Linn. Tr.* 22. 10—*Mich.* 32. 4.

Root thick, creeping. *Straw* four or five inches high, curved, 3-cornered, angles very rough, rigid. *Leaves* dark, and rather glaucous green, rigid, curved, shorter than the straw, towards the end rough on the edge and on the keel. *Male spike* single, (rarely two) terminating, oblong, pointed, three fourths of an inch long. *Scales* black, egg-shaped, very blunt. *Female spikes* three, near the male, the lower farther off, oblong, pointed, sitting, (the lower often on a fruit-stalk) three fourths of an inch long, florets closely compacted, but the lower ones more distant, one or two at the top, chiefly on the upper spikes, male. *Scales* black, very blunt, but half the length of the ripe capsule. *Floral-leaf*, one to each spike, broad at the base. *Capsules* egg-shaped, blunt, entire at the end, smooth, flattened on one side; sometimes longer, taper pointed, and crooked. *Summits* 2, thick, white, hairy. This plant differs from the *C. montana* of Hudson, by having no sheath, two summits and smooth capsules; it differs also from the *C. saxatilis* of Linnæus, by being thicker and a much smaller plant; and from both by the great rigidity of its leaves and its crooked straw. By its

rigid and spreading leaves it may be known from the *C. cæspitosa*, whose leaves are upright and soft, as well as from the *stricta* which is altogether upright. GOODENOUGH. L. Tr. ii. p. 193.

Rigid Carex. On the top of Snowdon. HUDSON.—On the Scottish Alps. DICKSON.—Crib y Ddeseil. Mr. GRIFFITH.—(Ben Lomond. Dr. SMITH.—Teesdale Moor near Caldron Snout, Durham. Rev. J. HARRIMAN. E.) P. May—July.

43. *C. Summits* 2; sheaths none; spikes nearly sitting cæspitosa. and cylindrical, blunt; leaves upright, soft.

Linn. Trans. ii. 21. 8—*E. bot.* 1507—*Park.* 1266. 3.

Root creeping very much. *Straw* upright, four to twelve inches high, or more; not rigid, 3-square, corners acute, roughish. *Leaves* of a pleasant green with a glaucous cast, soft, upright, tall as the straw, rough towards the end, at the edge and on the keel. *Male spike* one (rarely two,) upright, terminating, oblong, 3-sided, half to one inch long; scales egg-shaped, blunt. *Female spikes* two or three, nearly cylindrical, blunt, the lower on a short fruit-stalk, the upper ones without any. *Florets* in six or eight rows, closely tiled. *Scales* egg-shaped, either blunt or pointed, black, shorter than the ripe capsules. *Floral-leaves* at the base of each female spike, but not sheathing, dilated and black at the base, generally taller than the straw. *Capsules* egg-shaped, bluntyish, somewhat compressed, smooth, entire at the end. *Summits* 2. It flowers nearly a month later than *C. stricta*, and the capsules in this adhere to the fruit-stalk even in decay, whilst in the *stricta* they fall off as soon as they are ripe. GOODENOUGH.—Upper female spike sometimes with male flowers at the end. The lower florets of the female spikes have sometimes three summits.

Tufted Bog Carex. Marshes and wet woods. (Not uncommon about Norwich. Mr. CROWE. E.) P. April—May.

44. *C. Summits* 2; sheaths none; spikes nearly sitting, stricta. cylindrical, acute; male spikes mostly 2; leaves upright, stiff and straight.

E. bot. 914—*Linn Tr.* ii. 21. 9.

Root creeping very much. *Straw* one to two feet high or more, upright, 3-square, corners acute, rough. *Male spikes* generally two, upright, one to two inches long, 3-sided. *Scales* oblong, acute, black. *Female spikes* three, one to two inches long, sitting, but the lowermost on a short fruit-stalk, cylindrical.

dricul, but acute, because of some male florets at the end. *Scales* oblong, acute, rather shorter than the capsules. *Floral-leaves* to the female spikes leaf-like, sitting, dilated at the base when young, but the expanded part soon vanishes. *Capsules* compressed, egg-shaped, acute, smooth, entire at the end, disposed in eight rows. *Summits* 2, thickish, hairy. Has often been supposed the same as the *C. caespitosa*, from the number of circumstances common to both; but in the *C. stricta* the root-leaves which sheath the bottom of the straw have this sheathing part split into threads like open net-work: they too, as well as the floral leaves, are shorter than the straw at the time of flowering. The floral-leaves, particularly the lower ones, have either no expanded appendages at the base, or only oblong ones, which are presently so elongated as to disappear, that is, to lose all their expanded form. The female spikes are acute, owing to their being terminated by male florets; the scales are all acute, the capsules are set in eight rows, and the male spikes are mostly two, on the contrary, *C. caespitosa* wants the fibrous texture in the sheathing part of the root-leaves; these leaves equal the height of the straw at the time of flowering, and the floral-leaves are taller. The floral-leaves have always round expansions on each side their base, which do not change their shape; the female spikes are blunt, and have no male florets at the end. The capsules are set in six, rarely in eight rows, and there is seldom more than one male spike. In its general appearance also it is a much smaller, weaker, and softer plant. GOODENOUGH. Linn. Tr. ii. p. 196.

Glaucous straight-leaved Carex. Found by Mr. Pitchford in Marshes near Norwich. [Hall wood, near Newmarket. Mr. RELHAN.—Pilmoor Pool, Weston, Staffordshire, where it forms large tufts, which may be safely trodden upon. Rev. S. DICKENSON.] P. April.

(5) *Spikes, some male, others female: male spikes two or more.*

[*C. filiformis*, *stricta*, *recurva*, and some others, which have, though rarely, two male spikes.]

ripa'ria.

45. *C. Spikes* oblong, acute; scales of the male spear-shaped, of the female tapering to an awn-like point: capsules egg-spear-shaped, cloven into two teeth at the end.

Curt. 281—*E. bot.* 579—*Fl. dan.* 1118—*H. ox.* viii. 12. 1—*Leers* 16. 2—*Mich.* 32. 6. & 7.

Root thick, creeping very much. *Straw* two feet high or more, upright, firm, 3-square, angles very acute and rough.

Leaves broad, upright, glaucous, pale on the upper side, blackish green underneath, very rough on the edges and the keel. *Male spikes* three, terminating, pointed, oblong, but 3-sided, crowded together. *Female spikes* three, oblong, mostly pointed with male florets, upright, lower ones on fruit-stalks. *Scales* black, longer than the capsules. *Floral leaves*, the lower ones in some degree sheathing the fruit-stalks, upper ones expanded at the base. *Capsules* tiled in eight rows, oblong-egg-shaped, taper-pointed, marked with fibres, forked at the end. *Summits* 3. The black, triangular, acute, male spike and the cloven pointed capsules, preclude the possibility of mistaking this species. **GOODENOUGH.** *Male spikes* tapering each way, the terminating one from one and half to three inches long, before flowering brownish black, during flowering reddish brown, when out of flower light brown; near together, the space between the insertions of the lowermost and uppermost being seldom more than from one to one inch and half. *Female spikes* oblong, spear-shaped, tapering each way, the uppermost frequently, and sometimes all with male flowers at the end. **ST.**—The serrated awns of the calyx mentioned by Mr. CURTIS, are not constant: nor is the keel of the leaves rough, except towards the point. The sides of the straw are not flat, but concave.

Great Seg. *C. acuta* α HUDS.—Edges of rivers, ponds and ditches, also in meadows, where it is much smaller.

P. April—May.

(46. *C.* Spikes upright, cylindrical; female ones on stalks; all the glumes blunt, awnless; fruit ob-ovate, extremely blunt. *Michelia*'na.

Mich. Gen. 62. t. 32. f. 12.

Stem upright, a foot to 18 inches high, 3-sided, striated, scarcely rough. *Leaves* erect, sharp pointed, rough at the edges, keel smoothish. *Bractes* leafy, upright, rising above the stem, not sheathed, appendaged at the base, with large roundish brown auricles, paler at the point. *Male spikes* three or four, nearly sitting, slender. *Female spikes* two, thicker. *Stigmas* three. This plant hitherto only described by MICHEL, is most allied to *C. recurva*, (which sometimes varies with numerous male spikes,) but the perfectly smooth fruit shorter than the glumes, and rather compressed, by no means gibbous, clearly distinguishes *C. Micheliana*; not to mention its greater size, and erect female spikes, the lowermost of which is liable to be branched at the base, as in *C. binervis*. Smith, in Linn. **Trans.** v. 5. p. 271. and **Fl. Brit.**

Blunt-fruited black Carex. In watery places. Near Aberdeen. Prof. BEATTIE.—Wetgrounds, Beverley. Mr. TEESDALE. **Bot. Guide.**—Near Rippon. Mr. BRUNTON, ditto. P. May. E.)

- (læviga'ta. 47. *C.* Spikes cylindrical, female ones on stalks; sheaths very long; glumes pointed; fruit triangular, with a cloven beak.

E. bot. 1387—*Schkuhr. t. z. f.* 83.

Much like *C. vesicaria* not fully grown. It is distinguishable by the long stalks of its female spikes, and especially by the tunic of the seed never becoming inflated. The remarkable smoothness of its whole stem and principal leaves, the upper floral leaves only being rough at the edges, and the lower ones merely at the tip, is a ready and permanent difference between this plant and all with which it might be confounded. *Spikes* become rusty, not black with age. Their *glumes* have rough points. The males are one or two; females two, three, or four. Sometimes a starved spike of hermaphrodite flowers has been observed by Mr. J. Sowerby.

Smooth-stalked Beaked Carex. In marshes. In a marsh near Glasgow, Mr. MACKAY.—Near Aberdeen, Mr. BEATTIE.—In a boggy thicket near Warley Common, Essex, Mr. E. FORSTER; also in Great Shrub Bush, a wood near Wanstead, Cornwall; and in Sussex. P. May. *Fl. Brit & E. Bot.* E.)

- paludo'sa. 48. *C.* Spikes oblong, bluntish; scales of the males blunt, of the female spear-shaped; capsules egg-spear-shaped, slightly toothed at the end.

E. bot. 807—*Curt.* 280.

Root greatly creeping. *Straw* one to two feet high, unequally 3-cornered, angles acute, rough. *Leaves* nearly half an inch broad, glaucous green, red at the base, shorter than the straw, upright, edges and keel rough. *Male spikes* three, terminating, near together, oblong, blunt, 3-sided, angles bluntish. *Scales* brown, oblong, blunt. *Female spikes* three, oblong, blunt, but if terminated by male florets, acute, upright, some on short fruit-stalks, florets closely and compactly tiled; scales brown, spear-shaped, very acutely pointed, mostly longer than the capsules. *Floral-leaf*, one to each female spike, somewhat sheathing the fruit-stalk, seldom expanded at the base. *Capsules* tiled, generally in eight rows, egg-spear-shaped, rather acute, at first entire at the mouth, but when ripe shewing two very short little teeth. *Summits* 3. Approaches near to the *C. riparia*, but in that the scales of the male spike are very acute, in this always blunt. In this, the capsules are either entire, or only slightly cloven at the end, in that they have a beak which is forked. GOODENOUGH. *Male spike* one and half to two inches long, female sometimes three inches or more. *Straw* not always rough.

Lesser Common Carex. Acute Seg. C. acuta. CURT.—
Marshes and banks of wet ditches, often found with *C. riparia*.
P. April—June.

49. *C. Summits* 2; spikes thread-shaped; female spikes acu'ta, nodding whilst in flower, upright when ripe; capsules rather acute, entire at the end.

Dicks. h. s.—E. bot. 580—Curt. H. ox. viii. 12. 3.

Root creeping. *Straw* varying in height from three inches to two feet or more; 3-square, angles very acute and rough. *Leaves* narrow, upright, of a pleasant green, shorter than the straw, rough at the edges and on the keel. *Male spikes* two, rarely three, slender, one to three inches long, scales oblong, blunt, black. *Female spikes* three, slender, lower ones sometimes on fruit-stalks, nodding when in flower, upright when ripe, generally terminated by some male florets, and therefore pointed. *Scales* oblong, acute, black, rather shorter than the capsules. *Floral-leaf*, one at the base of each, female spike often expanded at the bottom. *Capsules* mostly disposed in eight rows, egg-shaped, acute, compressed, closely tiled, entire and closed at the end. The slender habit of this plant in all its parts, its thread-shaped spikes drooping whilst in flower, its two summits, and its compressed flattish capsules entire at the end, keep it distinct from every other species. GOODENOUGH. *Female spike* as long as the terminating male spike. CURTIS.

(Mr. Brunton (Bot. Guide. p. 716.) reports a curious variety of this plant found near Rippon, in which the stamens grow out of the tunic of the seed; and another still more remarkable has been communicated to Mr. Dawson Turner, from Copgrove, Yorkshire, by the Rev. J. Dalton, with very numerous male spikes, the lower female ones on long peduncles, the *spikes* nearly as large as those of *C. riparia*, and the *glumes* awned and much longer than the fruit. E.)

Slender spiked Seg. C. gracilis. Curt. C. acuta β *Fl. Suec.* Edges of rivers, ponds and ditches, and also in meadows. Flowers a week or two later than *C. riparia* and *paludosa*. P.

50. *C. Male spikes* strap-shaped; females oblong, expanding; capsules inflated, oblong, beak-pointed, expanding. vesica'ria.

Fl. dan. 647—E. bot. 779—Leers 16. 2. III.—H. ox. viii. 12. 6—Barr. 113. 1.

Root creeping. *Straw* two feet high, 3-square, angles very acute and rough. *Leaves* pale green, taller than the flowering

straw, narrow, edges and keel rough. *Male spikes* terminating, upright, upper one 1 to 2 inches long, the others shorter, slender, somewhat 3-cornered: scales oblong, bluntish, yellow. *Female spikes* on fruit-stalks, nearly upright, 1 to 2 inches long: scales spear-shaped, but narrow and very acutely pointed, pale, at first twice the length of the capsule, afterwards only half its length. *Floral-leaf*, 1 at the base of every female spike, taller than the straw. *Capsules* loosely disposed, expanding, smooth, yellowish, egg-oblong, taper, and almost beaked at the end, which is cloven. *Summits* 3. Its yellow hue, narrow short scales, and inflated smooth conic capsules, point it out beyond all danger of mistake. **GOODENOUGH.**

Bladder Seg. Marshes. Woods in the New Forest, Hampshire.—Edgbaston Pool, near Birmingham.—(Near Bodgylchad Lake, Beaumaris. Rev. H. DAVIES. *Bot. Guide*.—Wisbech, in a field near the New Common Bridge, Cambridgeshire. Mr. SKRIMSHIRE. *ditto*. E.) P. May—June.

ampulla'cea. 51. *C.* Spikes thread-shaped, the males thinnest, females cylindrical, upright; capsules inflated, globular, awn-beaked, diverging.

E. bot. 780—*H. ox.* viii. 12. 8—*Leers* 16. 2. II.

Root creeping very much. *Straw* 1 to 2 feet high, upright, 3-square, angles acute, rough upwards, but smooth below the lowest spike. *Leaves* glaucous, upright, narrow, longer than the straw, generally rough at the edges and on the keel. *Male spikes* 2 or 3, strap-thread-shaped, upper one 1 to 2 inches long, the others shorter. *Scales* oblong, either blunt or acute, yellowish. *Female spikes* 2 or 3, cylindrical, 1 to 2 inches long, upright, on short fruit-stalks. *Scales* spear-shaped, acute, yellowish, but half the length of the capsule. *Floral-leaf*, 1 at the base of every spike, male as well as female upright, narrow. *Capsules* closely tiled in eight rows, inflated, globular, awn-pointed or beaked, diverging, yellowish, ending in 2 little teeth. *Summits* 3. The sheaths of the root-leaves have the fibrous texture before mentioned in *C. stricta*. **GOODENOUGH.** *Stem* 1 to 4 feet high, angles obscurely marked. **WOODWARD.**—The scales both of the male and female flowers in *C. vesicaria* are acutely pointed or awned, but in this species they are less acute and not at all awned.

Beaked Seg. *C. vesicaria*. Huds. *C. rostrata*. Bot. Arr. ed. ii.—Bogs and marshy watery places, but not very common. Bogs of Isla, and on Beuteskerny in Breadalbane. **LIGHTFOOT.** Common in the North, on the edges of brooks and rivulets, as in Giggleswick Tarn, and borders of Semer Water, Wensledale.

Not nearer London than Virginia Water. CURTIS.—[Near Bunting, Suffolk, frequent. Mr. WOODWARD.—Mill below Droitwich. Mr. BAKER.—In a pool in the Lakewood, near Pucklechurch, Gloucestershire. Mr. SWAYNE.—Edgbaston Pool, near Birmingham.] P. May—July.

52. C. Hairy; all the spikes oblong; female spikes far asunder, sheathed; capsules hairy.

Dicks. h. s.—E. bot. 685—*Leers* 16. 3—*H. ox.* viii. 12. 10—*Fl. dan.* 379.

Root creeping very much. Straw upright, 3-square, angles very acute and rough. Leaves nearly half an inch broad, hairy, rather shorter than the straw, rough on the keel and the edges. Male spikes 2. Female spikes 3, far asunder, the lower on long fruit-stalks. Floral-leaves 1 to each female spike, sheathing near half the fruit-stalk of the lower spike. Summits 3. GOOD-ENOUGH. The hairiness of the leaves, the scales, and the capsules so clearly distinguish this from every other species, as to render a more minute description quite unnecessary.

Hairy Seg. Meadows and pastures in wet or marshy places. [Near Uley. Mr. BAKER.—Stews at Edgbaston.]—(A remarkable variety figured Schkurhr t. u. u. f. B. has been observed for successive years by the Rev. J. DALTON, near his house at Copgrove, Yorkshire. Bot. Guide. E.) P. May—June.

TY'PHA. Catkin cylindrical: Bloss. none.

M. Cal. 3 bristle-shaped leaves.

F. Florets on the same plant, below the males.

Cal. soft hairs: Seed 1, standing on a fine bristle.

T. Leaves somewhat sword-shaped: spike with the male and female florets near together. latifo'lia.

Curt. 171—*E. bot.* 1455—*Kniph.* 6—*Fuchs.* 823—*J. B.* 527. 3—*H. ox.* viii. 13. row 3. 1—*Fl. dan.* 645—*Lonic.* i. 174. 1—*Matth.* 863—*Ger.* 42—*Trag.* 681—*Dod.* 604—*Lob. obs.* 42. 1; ic. 1. 81. 1—*Ger. em.* 46—*Lonic.* i. 173. 1. b.—*Park.* 1204. 1—*J. B.* ii. 527. 1 and 2.

(As Dr. Smith remarks, this singular plant must be familiar to the most casual observer by its tall stems and great mace-like brown spikes, which flower in July. E.)

Great Cat's Tail, Reed-mace. Banks of rivers, fish ponds, and in marshes. P. July.

angustifolia. T. Leaves semi-cylindrical; spike with the male and female florets at some distance.

Curt. 169—*E. bot.* 1456—*Fl. dan.* 815—*Tourn.* 301—*H. ox.* viii. 13, row 3. 2—*Park.* 1204. 2.

Leaves, spike and spike-stalk much more slender, though the plant grows as tall and as firm as the *T. latifolia*. The fertile and barren spikes generally about 1 inch asunder. **WOODWARD.** *Leaves* sheathing the stem, semi-cylindrical below, flat and strap-shaped towards the end.

Lesser Cat's-tail. Ditches and ponds. [Clay pits in Norfolk and Suffolk, frequent. Mr. **WOODWARD.**—Pool near Chartley house. Mr. **BAGOT.**]—(Sides of the Cam below Ditton. Dr. **MANNINGHAM.**—Crosby, near Liverpool. Dr. **BOSTOCK.**—Middle of Woolwich Common. P. June—July. E.)

Var. 2. When growing among rocks, and its roots confined, it becomes smaller, but its spikes more numerous. **LINN.**

(On the authority of Dillenius, Dr. Smith thinks this variety may be considered as a distinct species. E.)

E. bot. 1457—*Lob. adv.* 41. *ic.* i. 81—*J. B.* ii. 540.

Dwarf Cat's Tail. *Typha minor*, Fl. Brit. Hounslow Heath. *R. Syn.*

SPARGANIUM. Flowers crowded into a globular form: male and female on the same plant.

Male. *Cal.* 3-leaved.

Fem. *Cal.* 6-leaved: *Summits* 1 or 2. Fruit a juiceless *Drupa*, superior, of 1 cell, and 1 or 2 seeds.

ramosum. S. Leaves triangular at the base, the sides concave: fruit-stalks branched.

Curt. 342—*E. bot.* 744—*Kniph.* 12—*Leers* 13. 11—*H. ox.* viii. 13, row 2. 1—*Tourn.* 302—*C. B. th.* 228—*Dod.* 601. 2—*Lob. obs.* 41. 3; *ic.* i. 80. 1—*Ger. em.* 45. 1—*Park.* 1205. 1—*Pet.* 72. 9—*Cam. epit.* 732—*J. B.* ii. 541. 1—*Matth.* 990—*Ger.* 41. 1.

Leaves flat towards the end. Globes of male flowers uppermost.

Greater Bur-reed. *Sparganium erectum*. Linn. Mr. Curtis having characterized and figured another species which is equally

erect, I have adopted his specific character and his trivial name.
Ditches, marshes, and banks of rivers. P. July.

S. Leaves triangular at the base, the sides flat; fruit-stalks *simples*.
unbranched. (Curtis.)

Dicks. h. s.—Curt. 341—*E. bot.* 745—*Fl. dan.* 932—*Dod.* 601.
3—*Lob. obs.* 41. 4; *ic. i.* 80. 2—*Ger. em.* 45. 2—*Park.* 1206.
2—*J. B. ii.* 541. 2—*Ger.* 41. 2—*Pet.* 72. 10—*Park.* 1205. 2,
lowermost corner—*H. ox. viii.* 13. row 2. 2.

Grows upright like the preceding, but is a much smaller
plant, though the globes of flowers are larger.

Unbranched Bur-reed. Marshy places, and sides of pools,
particularly such as are found on heaths, and have been old
gravel pits. P. July.

S. Leaves prostrate, strap-shaped, flat.

na'tans.

Dicks. h. s.—*E. bot.* 273—*Fl. dan.* 260—*Pet.* 72. 11.


Flowering stem very slender, not rising more than 6 inches
above the water; undivided; supporting a few balls of sitting
flowers, and those not larger than a pea. *Leaves* flat, floating
on the water to a considerable length. *WOODWARD.* Both before
the stem shoots up, and after the flowering, the leaves, which
much resemble those of the grasses, float on the surface of the
water like those of *Festuca fluitans*. The terminating ball of
flowers is entirely male, the lower ones female. *Style* short.
Summits slanting.

Floating Bur-reed. *Sparganium simplex natans* β. *HUDS.*
Pools, lakes, and slow rivers about Norwich. Llanberys, and in
Yorkshire and Westmoreland.—[*St. Faith's Newton.* Mr.
PITCHFORD.—Stagnant waters in the Moss of Restennet,
Angusshire. Mr. *BROWN.*]—(Burwell Fens, Cambridgeshire.
Rev. Mr. *HEMSTED.*—Near Manchester. Dr. *HULL.* *Fl. Brit.*
E.) P. July.

DIGYNIA.

PHA'LARIS. *Cal.* 2 valves, 1-flowered, keeled,
longer than, and inclosing the blossom:
Nectary 2-leaved.

P. Panicle nearly egg-shaped, spike-like; husks keeled, *canarien'sis*.
hairy; nectaries 2; calyx double.

Ludw. 117—*Schreb.* 10. 2—*E. bot.* 1310—*Math.* 919—*Trag.* 669
 —*Ger.* 80. 1—*C. B. th.* 534—*Dod.* 510—*Lob. obs.* 26. 1—*Ger.*
em. 86—*Park.* 1163. 1—*J. B.* ii. 442. 2—*H. ox.* viii. 3. row
 3. 1—*Spike, Mont.* 44—*Fructif. Leers* 7. 3. 

(*Seeds* egg-shaped, compressed, shining. *Fl. Brit. E.*) *Valves* of the calyx with 2 green ribs on each side, and much larger than the blossom. Within these are 2 other small, white, skinny valves, not more than half the length of the blossom. *Blossom*, the larger valve hairy, the other only so along its back. *Nectary* 2 fleshy, concave, pear-shaped substances on the outside the base of the blossom.

Manured Canary Grass. Road sides and uncultivated ground. [New's-Wood, adjoining to Malvern, Worcestershire. *Mr. BALLARD.*] *A. June—Sept.**

arena'ria.

P. Spike egg-shaped, fringed; straw branched.

Fl. dan. 915—*E. bot.* 222—*Pluk.* 33. 8—*Mont.* 74. *Spike only.*

Spike egg-oblong. *Calyx*, valves spear-shaped, not lopped, not furnished with 2 dagger points, which give such a striking appearance to the *Phleums*; fringed with hairs along the keel. *Straw* branched at the bottom.

Sea Timothy-grass. Sea Canary-grass. Phleum arenarium. LINN. which see. Sandy shores.—At Yarmouth. *Mr. WOODWARD.*—Newborough Sands, Anglesea. *Mr. GRIFFITH.*—(North shore, near Liverpool. *Dr. BOSTOCK.*—Sea beach, near Prestatyn, Flintshire. *Mr. GRIFFITH. E.*) *A. July—Aug.*

phleoi'des.

P. Panicle cylindrical, spike-like, smooth; here and there viviparous.

Fl. bot. 459—*Fl. dan.* 531—*Viviparous floret, Scheuch.* 2. 5. *C.*

Spike pale, divisible into lobes. So exactly resembles some of the *Phleums*, that it may be easily mistaken for one of that genus; but the spike when examined and pressed with the fingers, separates, and proves to be a panicle; and the *Husks* are not notched at the end. *Flowers* different from those of the *Phleum*. It is a kind of intermediate plant between the *Phalaris*, *Phleum*, and *Alopecurus*. LINN. A stiff awn-like thread rises from the base of the inner valve, one-third of its length, analogous to that of *Arundo arenaria*. ST. Never found any of the florets viviparous. *WOODWARD.* From 10 to 15 inches high.

* It is often cultivated for the sake of the seeds, which are found to be the best food for the Canary, and other small birds. It nourishes the *Coccus phalaridis*, not properly a native, but is become naturalized, though originally from the Canary islands. (In the Isle of Thanet the widely extended crops of this elegant grass make a beautiful appearance in the months of July and August. *E.*)

Panicle from near two to three and a half inches long, thick as a goose quill.

Cat's-tail Canary. High, dry, and sandy soil. [First discovered in Great Britain by Mr. WOODWARD and Mr. CROWE, near Swaffham, Norfolk, in 1780.]—(Barrington Hill, near Hildersham, Cambridgeshire, in great abundance. RELHAN.—On Chippenham Park wall, Cambridgeshire. Rev. J. HEMSTED. E.) P. June—July.

(P. *Panicle* upright, with spreading branches; flowers *arundina'cea*. crowded, leaning one way.

E. bot. 402—*Fl. dan.* 259—*H. ox.* viii. 6. 41—*Park.* 1273. 2—*C. B. th.* 37 & 92—*Leers* 7. 3—*Mont.* 59.

Stems 2 to 5 feet high, erect, strong, reedy, smooth and leafy, with several joints. *Leaves* spear-shaped, striated, pointed, smooth, more or less glaucous, with long, ribbed, scarcely swelling sheaths. *Stipulæ* short, bluntish. *Calyx glumes* equal, keeled, ribbed. *Inner corolla* shorter than the calyx, downy; at length cartilaginous, and enfolding the seed; *outer* of two very minute, linear, gibbous, hard valves, each bearing a *tuft of hairs* exceeding their own length. Dr. Schrader rightly observes that the hardened permanent corolla proves this a *Phalaris*, and that what have been taken for mere tufts of hair, are really outer petals. These parts are more fully represented in *E. bot. t.* 2160, fig. 2. Dr. SMITH in *E. bot. E.*)

Stem and *leaves* smooth, the latter half an inch or more in breadth. *Panicle* 5 to 8 inches long, 1 to 2 in breadth, stiff and strong; varying in colour from almost white to pale green in the shade, and in the sun to rich shades of purple and yellow, with large dark red anthers.

(*Reed Canary Grass. Calamagrostis variegata.* With. Ed. 4. *Arundo colorata.* Fl. Brit. E.) *Phalaris arundinacea.* LINN. and E. bot.—Banks of rivers and ponds, not uncommon. [P. July.

Var. 2. *Leaves* glaucous green, RAY. Syn. p. 400. n. 1.

Sea coast of Jersey, and near Lanperis.

Var. 3. *Leaves* striped.

This beautiful variety is often cultivated in our gardens under the name of *Ladies'-traces*, or *Painted Lady-grass*, or *Riband-grass*. The stripes are generally green and white, but sometimes with a purplish cast. It is figured in *Ger. em.* 26. 2—*H. ox.* viii. 6. 43—*Ger.* 24—*J. B.* ii. 476. 2. It has not been found wild with us in this striped state, (unless, as Mr. RELHAN has announced, near Cambridge. E.)

C. colorata. Hort. Kew.*

* (Mr. Hallet, of Axminster, finds this variety afford excellent food for cattle. It produces an earlier crop than most other grasses, and may be cut three or four times during the summer. *Month. Mag.* v. 21. p. 343. E.)

PA'NICUM. *Cal.* 2-valved, 2-flowered: 1 floret hermaphrodite, the other male, or else neutral.

verticilla'tum. P. Spike cylindrical, rough when stroked downwards; partial involucrum with 2 bristles and 1 floret.

Dicks. h. s.—Curt.—E. bot. 874—*H. ox.* viii. 4. 11—*Ger.* 14—*C. B. th.* 139—*Park.* 1177. 2—*J. B.* ii. 469. 1—*Ger. em.* 15. 1.

Greatly resembling the *P. viride*, but the *bunches* of the spike longer, 3 or 4 together, pointing downwards on one side. *Flowers* green. *Pistils* purple. One or 2 rough *bristles* to each flower, and longer than the flower. *Little fruit-stalks*, after the falling off of the flowers, terminated by a lopped, hollow, white cup. *Spike-stalk* cloven, with 3 or 4 corners. *Straws* smooth, spreading, 2 feet high. *Leaves* naked. LINN. Spike two and a half to four inches long, and near half an inch broad. (The two bristles of the involucra are very rough with little sharp teeth *pointing backwards*, by which curious mark this is always, in however dwarf a state, clearly distinguishable from *P. viride*. CURTIS. *E. bot.* E.)

Kneel-grass. *Rough Panick.* Cornfields between Putney and Roughampton. RAY.—Battersea fields. CURTIS.—(In a field near St. Giles's gates, Norwich. *Fl. Brit.*—Beyond the Neat Houses by the Thames side going from the Horse Ferry above Westminster to Chelsea. RAY. E.) A. June—July.

viride.

P. Spike cylindrical, soft to the touch; partial involucrum with 3 bristles and 1 floret.

Curt.—E. bot. 875—*Ger. em.* 17. 3—*Park.* 1154. 2 and 3—*Fl. dan.* 852—*Ger.* 20. 8—*C. B. th.* 138—*H. ox.* viii. 2. 10—*J. B.* ii. 431. 1—*Spike; Leers* 2. 2—*Fructif. Scheuch.* 2. 2.

Spike one to two and a half inches long, three-eighths broad, green or with a purplish cast from the bristles being more or less coloured. (*Bristles* of the involucra about six (Dr. SMITH remarks) rough with *erect teeth*, not reflexed as in *P. verticillatum*. *Involucra* greatly exceeding the flowers in length. E.)

Green Panick. Sandy fields. Corn fields, Ditchingham, Norfolk. Mr. WOODWARD.—Many places about Norwich. Dr. SMITH; and Battersea fields.—Near the Neat Houses, Chelsea. MARTYN. E.) A. July.

Crusgalli.

P. Spikes alternate and in pairs; little spikes sub-divided; husks awned, and rough with strong hairs; spike-stalk with 5 angles.

Var. 1. Awns not above once and a half as long as the calyx.
LINN.—Awns none. CURTIS.

Curt.—*E. bot.* 876—*Math.* 407—*H. ox.* viii. 4. row 1. 15—*Dod.* 559. 2—*Lob. obs.* 25. 2—*Ger. em.* 85. 4—*Park.* 1154. 1—*Ger.* 79. 5—*C. B. th.* 136.

Var. 2. Awns ten times as long as the calyx.

Ger. 15. 1—*C. B. th.* 137—*J. B.* ii. 443. 2—*Ger. em.* 16. 1—*Park.* 1154. 4—*Panicle, &c. Leers* 2. 3—*Fructif. Scheuch.* 2. 2. *F.*

Loose Panick. Wet corn-fields, rare. About Battersea. Near Martha's Chapel, by Guildford. HUDSON.—Between Deptford and Greenwich; near Petersfield, by the rivulet, Hants. RAY. A. Aug.

P. Spikes finger-like, knotty on the inside the base; flowers in pairs, without awns; sheath of the leaves dotted. sanguinalis.

Curt. 242—*E. bot.* 849—*Schreb.* 16—*H. ox.* viii. 3. row 1. 2—*Buxb. v.* 65—*Clus.* ii. 217. 2—*Lob. obs.* 13. 1—*Ger. em.* 27. 2—*Park.* 1178. 1—*Ger.* 25. 2—*C. B. th.* 114—*J. B.* ii. 444. 1—*Fl. dan.* 388—*Spikes, &c. Leers* 2. 6—*Scheuch.* 2. 11. *G. H.*

The knots within the base of the spikes, and the dots on the leaf-sheath do not appear in the figure of the *Fl. Lond.* but the latter are mentioned, and the former expressed in the fig. of *Leers*; so that there yet remains a doubt whether our plant may not be the *P. filiforme*. fig. by *Jacq. obs.* iii. t. 70, and of which the following is given as a specific character: “*Spikes* somewhat finger-like, approaching, upright, strap-shaped; *spike-stalk* sig-zag; *teeth* 2-flowered, 1 floret sitting.”

Cock's-foot Panick. Corn fields near Battersea; and Martha's Chapel, Guildford. HUDSON.—At Witchingham, Norfolk. Mr. WOODWARD; (not found there at present. SMITH.—Near Henham, between Beccles and Saxmundham, Suffolk. *Lightf. Herb. E.*) A. July—Aug.*

P. Spikes fingered, expanding; soft hairs on the inside the base; flowers solitary; roots with creeping runners. dac'tylon.

* All the stems which lie near the ground take root, and by this means, though an annual and short lived plant, it increases and spreads very wide. Miss JENNINGS

PLATE XXI.—*Dicks. h. s-E. bot.* 850—*Clus. ii.* 217—*Lob. obs.* 12. 1—*Ger. em.* 28. 3—*Park* 1179. 5—*C. B. th.* 112. 113—*H. ox.* viii. 3. row. 2. 4—*Barr.* 753. 1—*H. ox. ib.* 6—*Spikes, Mont.* 99—*Scheuch.* 2. 11. I.

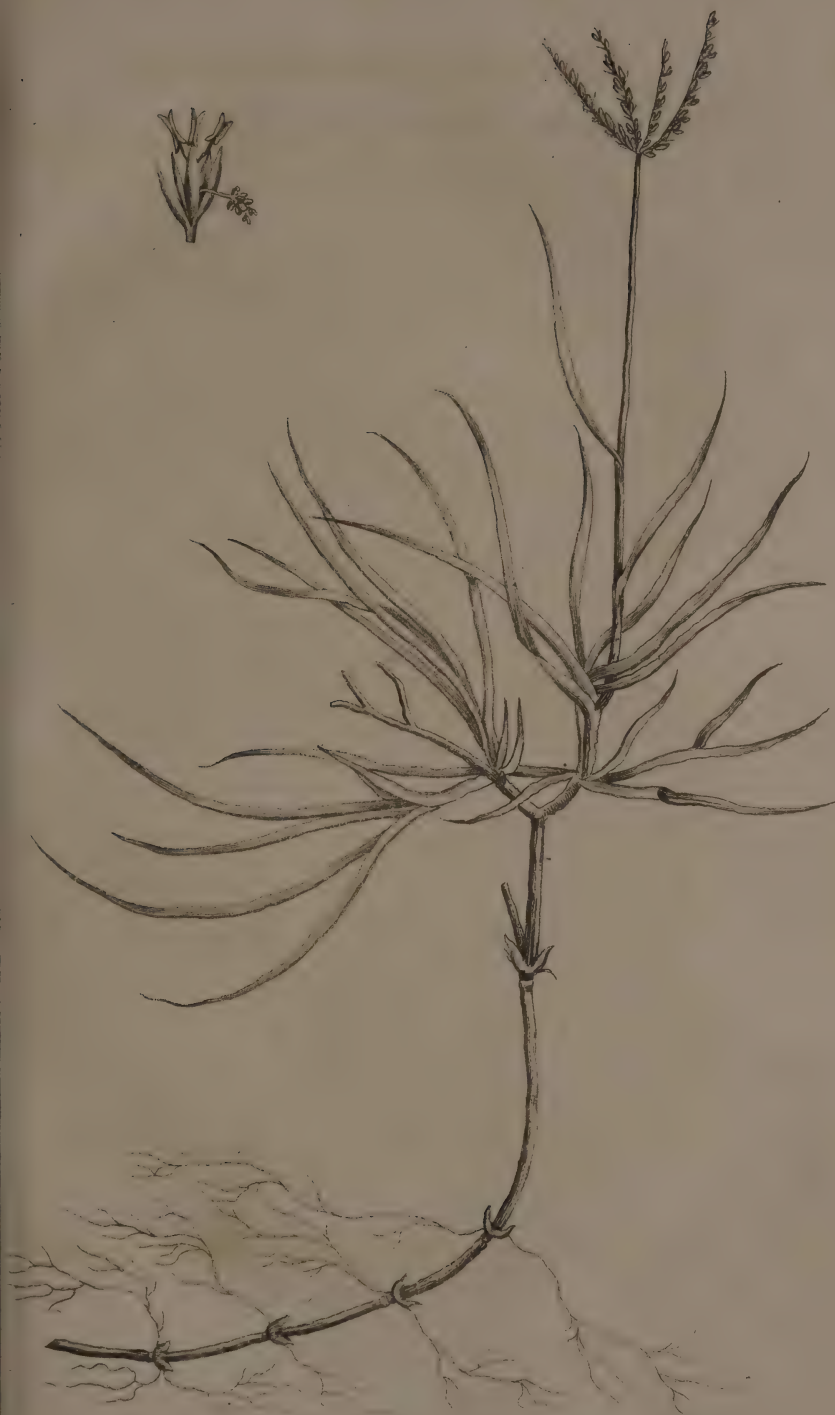
There is some little doubt whether ours be the exact plant characterized by Linnæus, as the *P. dactylon*; the first four fig. here referred to have long awns, but our plant has none, and yet these are all copied from the original fig. of Clusius, to which Linnæus refers us. But it may be, that in the milder climates of Spain and Italy, the plant is awned, though not so with us. None of the other figures have awns, and therefore agree better with our plant. But the hairs mentioned in the *Sp. char.* as existing on the inside the base of the spikes, are not so evident in our specimens as to justify such an application, for though our plants have some hairiness there, they have at least as much on the outside the base of the spikes, and still more in other parts.

This species seems first to have been found by Mr. Newton, as recorded in Ray Syn. 399, who justly rejects the Synon. of Bauh. Pin 7, which Linnæus probably copied from Scheuchzer or the older writers, and Hudson from him, overlooking the rejection of it by Ray. In the place mentioned by Newton, it has again been lately found by my friend Mr. Stackhouse, who sent me specimens, and also made the drawing from which the annexed plate has been engraven. Mr. Stackhouse also favoured me with the following remarks on its structure, which agree well with those of Scheuchzer.—*Root* greatly creeping through the loose sand, garnished with strong fibres at the knots. *Stem* rarely exceeding six inches in height. *Leaves* sheathing, the sheath parting from the straw when old, glaucous, hairy or pubescent throughout. *Spikes* four, diverging, dark purple, changing to chesnut colour, near two inches long, not more hairy than the other parts of the plant. *Florets* all on one side of the spike-stalk, awnless.

Creeping Panick. Sandy grounds, sea-shore. Between Penzance and Market-jeu, Cornwall. RAY. [And lately again in the same place by Mr. STACKHOUSE.] P July.

PHLE'UM. *Cal.* 2-valved, sitting, strap-shaped, lopped, ending in 2 dagger points, inclosing the blossom.

arena'rium. P. Spike egg-shaped, fringed: straw branched.—*See Phalaris arenaria.*



Panicum dactylon.

P. Panicle cylindrical, spike-like; husks naked; straw paniculatum. sometimes branched. HUDS.

Barr. 28. 2-Ger. 10. 1-C. B. th. 51-J. B. ii. 471. 3-Spike, Mont. 53.

Mr. Dryander believes this plant of Hudson's may probably be the same as the *Phalaris aspera* of Retz. obs. iii. n. 36; see Linn. Tr. ii. p. 217. I shall therefore subjoin the following description from Retzius, to enable the English botanist to determine the point.

Ph. aspera. Panicle cylindrical, spike-like: calyx inversely heart-shaped, dagger-pointed.

Root annual. *Straw* nine inches high, upright, sheathed and branched at the base. *Leaves* narrow, naked, short. *Panicle* spike-like, one to four inches long, thick as a goose-quill. *Calyx* inversely heart-shaped, pale green, hard, husks equal, bellying upwards, ending in dagger-points: slightly keeled. *Blossom*, husks equal. *Seed* oval, oblong, but slightly compressed.—Grows on mountains in the South of Europe. RETZIUS. *Sheaths* of the leaves rough. *Sheath-scale* blunt. *Panicle* bending to one side. *Calyx* sitting, tiled, 2-valved, 1-flowered, pointed, bellying upwards. *Blossom* two valves, awnless, shorter than the calyx. HUDSON; who himself believed it to be the same as the *Phalaris phleoides* of Linn.

(Dr. Smith is decidedly of opinion that this plant, though the *Phalaris aspera* of Retzius, and cultivated in the Botanic Garden, at Paris, under the same name (of Jussieu,) is in reality a *Phleum*. Mr. WOODWARD thinks this a very doubtful plant altogether, and Mr. RELHAN acknowledges that he has never been able to find it in the Cambridgeshire habitats.

Branched Timothy-grass Phalaris aspera. Retz. Meadows below King's Weston, near Bristol. Newmarket Heath. Bournbridge, Cambridgeshire. Mr. CROWE.—(Sunderland Ballast Hills. Mr. WEIGHELL.—On the wall of Rose lane, Oxford. SIBTHORPE. Badminton Park, Gloucestershire. E.) August.

P. Spike cylindrical, very long; calyx fringed, and awned; praten'se. straw upright.

E. bot. 1076.

Var. 1. *larger.* Straw upright.

Gram. pasc.—Schreb. 14. 1. 2-C. B. pr. 10. th. 49. 1-II. ox. viii. 4. row. 3. 1 and 2-J. B. ii. 472. 2-Park. 1170. 1-Spike, &c. Leers 3. 1-Mus. rust. v. 1. 1-Mont. 52.

Root nearly bulbous. Spike from four to seven inches long.
Common Timothy-grass. Herd-grass, in North America.
Ray Syn. 398. 1. Pastures common. P. July.

Var. 2. smaller. Straw ascending.

Schreb. 14. 3. 4. and 5—Fl. dan. 380—Barr. 53—Pet. ii. gram.
ital. 4. 1—H. ox. viii. 4. row 3. 3—Ger. 10. 2—C. B. th. 52
—Park. 1170. 3—J. B. ii. 472. 3—Dod. 562.—Lob. obs. 10.
1—Ger. em. 12, uppermost fig.—Park. 1170. 2—Spike, &c.
Leers 3. 2.

Smaller than var. one in all its parts. Root more like a bulb,
and sheathed with brown skin. Spike from three fourths of an
inch to two inches long. Leers tells us that being transplanted
into rich soil it became the year following the first variety.
Florets sometimes with four styles. Ray Syn. 398. 2. Barren
pastures and road sides, common. P July—August.*

nodo'sum. P. Spike cylindrical; straw ascending; leaves slanting;
root bulbous.

Barr. 22. 1—Pet. ii. gram. ital. 4. 2—H. ox. viii. row. 2. 1—
Barr. 22. 2.

Resembles *Phl. pratense*, but the root is bulbous, the straw
not upright, but ascending, and covered by the sheaths of the
leaves. Leaves pointing in two opposite directions, smooth,
except at the edges. Spike smooth. Anthers white. LINN.
Notwithstanding we are told by Hudson and Leers that this in
a rich soil becomes the *Phl. pratense*, I am not quite satisfied
that these respectable authors may not have fallen into a mis-
take from having considered the second variety of the *Phl. pratense*
as the *Phl. nodosum* of Linnæus: but that is a very common
plant with us, whilst what I consider as the true Linnæan *no-
dosum*, is rare.†

Lower joints of the straw swollen into bulbs, but the root not
bulbous. Straw universally knee-bent. Mr. SWAYNE. Bulbs
on the straw three or four, half an inch asunder, two spear-shaped

* Cows, horses, and goats eat it. Swine refuse it.—Account of it in
Mus. rust.—Dr. Pulteney says, that notwithstanding the character which
this grass acquired from Le Rocque's recommendation, sheep dislike it;
neither are cows or horses fond of it. But Leers says, it affords an excellent
pasture for horses.—A hard coarse grass, of little value for cattle. Mr. SWAYNE.

† The only specimen I have seen of it was sent me by the Rev. Mr.
Swayne, author of the *GRAMINA PASCUA*, a work extremely well calculated
to spread an useful knowledge of the grasses amongst farmers as well as
to instruct country gentlemen in the best means of ameliorating our pasture
lands.

scales to each bulbous joint. *Straw* not only ascending, but knee-bent. *Leaves* narrower than in the preceding species. *Ray Syn.* 398. 3.

[On the top of a wall about six miles from Bath, on the Warminster road. Mr. SWAYNE.] June.

P. Spike egg-cylindrical.

alpi'num.

E. bot. 519—*Scheuch. pr.* 3. 1—*Fl. dan.* 213.

Spike about one inch long, one-third of an inch broad, dark coloured, purplish, especially towards the base. *Awns* of the calyx as long as the husks; but in *Phl. pratense* they are much shorter.

Mountain Timothy Grass. Said to be found on Craigneulic, above Killin. LIGHTFOOT.—Mountains near Garway Moor. DICKSON.—[On Lochain y Gair abundant, and more sparingly on Ben Lawers. Mr. BROWN.] P. Aug.

ALOPECURUS. *Cal.* 2-valved: *Bloss.* 1 valve: *Nectary* none.

A. Spiked straw upright; calyx hairy; blossom awned.

pratensis.

Gram. pasc.—*Curt.* 296—*E. bot.* 759—*Schreb.* 19. 1—*Mus. Rust.* iv. 2. 9—*Stillingf.* 2, out of blossom—*Ger. em.* 11. 1—*Park.* 1164. 3—*Spike, &c. Leers* 2. 4.

It is surprizing that the spec. char. in the later edition of the works of LINNÆUS should describe this as awnless. The *awn* is twice the length of the calyx, and knee-bent. *Spike* one to one and half inch long, near half an inch broad.

Meadow Foxtail. Foxtail Grass. Meadows, very common. P. May—June.*

* This is the best grass to sow in low meadow grounds, or in boggy places which have been drained. Sheep, horses, and goats eat it. Cows and swine are not fond of it. LINN. but Dr. Pulteney says, this is the most grateful of all grasses to cattle.—*Alopecurus pratensis* is a grass very promising for cultivation. Lewis Majendie, Esq. Hedingham Castle, Norfolk, has cultivated it on a considerable scale, and finds it to be an excellent grass. There is however one circumstance which will be a great impediment to its general cultivation, viz. the depredations of the larvæ of a species of *Musca* which devour the seed so much, that in many spikes scarcely one will be found perfect. These larvæ are the prey of the *Cimex campestris*, whose rostrum seems peculiarly formed for searching the husks of the grasses. Mr. SWAYNE.

- (alpi'nus. A. Stem upright, smooth; spike egg-shaped; glumes of the calyx downy, awnless, nearly as long as the awns of the blossom. SMITH.

E. bot. t. 1126.

Root creeping, blackish. *Stem* about a foot high, bent at the lowest joint, thence erect, simple, leafy, smooth in every part. *Radical leaves* narrow; those on the stem broader, short, flat, sharp-pointed, smooth, with long and slightly inflated sheaths, crowned by very short stipulæ. *Spike* terminal, erect, blunt, scarcely an inch long. *Flowers* egg-shaped. *Calyx-glumes* united at their base, somewhat abrupt at the point, purplish, clothed with soft white hairs. *Blossom* of one naked glume, with an awn from its lower part, which scarcely (if at all) exceeds the calyx in length. *Fl. Brit.* and *E. bot.*

Alpine Fox-tail Grass. On the mountains of Scotland, particularly those about Loch Nagore, Aberdeenshire. Mr. G. DONN. *Fl. Brit.* P.—E.)

- agres'tis. A. Spiked straw, upright; calyx not hairy, its husks united at the base.

Curt.—Schreb. 19. 2—*E. bot.* 848—*Fl. dan.* 697—*Ger. em.* 11. 2—*Barr.* 699. 2—*Buxb.* v. 40. 1—*J. B.* ii. 473. 1—*Ger.* 9. 4—*C. B. th.* 53. 5—*Park.* 1169. 8—*Spike, &c. Leers* 2. 5—*Mont.* 54—*Scheuch.* 2. 6. A. B.

Spike two to four inches long, hardly one fourth of an inch broad, of a kind of lead colour. *Calyx* one leaf, divided rather more than half way down.

Var. 2. *Spike* shorter. *Awns* bowed back. RAY *Syn.* p. 397. n. 2 (*A. agrestis* β. *Fl. Brit.* E.)

Slender Foxtail Grass. Cornfields and road sides. [Pastures in the Isle of Wight, very common.] A very troublesome weed in many places among wheat, and execrated by the farmers under the name of *Black Bent*. Mr. SWAYNE. [P. May—June. A. *Fl. Brit.*

- bulbo'sus. A. Straw upright; spike cylindrical; root bulbous.

E. bot. 1249.—*Barr.* 699. 1—*Ray* 20. 2—*Mont.* 54.

Root not creeping nor sending out suckers. *Straw* never striking root at the joints, never knee-jointed. *Spike* dark glaucous green, but not so black as in the bulbous variety of *Al. geniculatus*. *Anthers* in this deep glaucous blue, in the variety of *A. geniculatus* the colour of rusty iron. WOODWARD. (*Blossom* of one obtuse notched glume, with a bent awn from its back, twice

as long as the calyx. *E. bot. E.*) *Spike* one to one and half inch long. *Awns* barely twice the length of the calyx; little fruit-stalks branched. (Mr. Turner and Mr. Wigg, from long attention to this and the following plant, are of opinion that *A. bulbosus* is only a variety of *A. geniculatus* dependent on its place of growth, and the remark of Dr. Smith inserted below, tends strongly to confirm the idea. *E.*)

Bulbous Foxtail Grass. *Alopecurus geniculatus bulbosus.* HUDSON. In the first field next the road before entering Northfleet. HUDSON. In a salt marsh near Yarmouth. Mr. WOODWARD.—(Marshes near Weymouth. Mr. LAMBERT.—In Cardiff Marshes. Rev. J. LIGHTFOOT.—Meadows below St. Philip's, Bristol. Mr. DYER.—Abundant in marshes by the river side at Belton and Burgh Castle, Suffolk. Mr. WIGG.—At Southwick, near Shoreham; and near Pagham, Sussex. Mr. BORRER. *Bot. Guide. E.*) P. June—July.

A. Spiked straw knee-jointed. (Sp. Pl.) geniculatus.

Var. 1. *Awns* twice as long as the blossom: root fibrous.

Curt. 339—*Fl. dan.* 861—*E. bot.* 1250—*H. ox.* viii. 4. row 2. 15—*Leers* 2. 7—*Scheuch.* 2. 6. C. D. E.

Upper leaves one to one inch and half above the sheathing part. *Spikes* one inch and half long. *Awns* full twice as long as the calyx. *Anthers* purplish, changing to dull yellow.

Floating Foxtail Grass. In meadows common. (and floating widely on the surface of shallow ditches and ponds. Dr. Smith reports it to have been occasionally found on the top of a dry wall, in which case its leaves and stem are greatly diminished in size, and the roots become bulbous with excessively long fibres. P. June.

Var. 2. *Awns* longer than the blossom; root bulbous; sheaths wider than the thickness of the straw. *Awns* barely twice the length of the calyx. *Anthers* purple, changing to brown yellow.

[On a bog at the source of the Yar, Fresh Water Gate, Isle of Wight.] May.

Var. 3. *Awns* more than twice the length of the blossom. Root bulbous.

[In flat meadows at Highbridge, in the parish of Hantspill, Somersetshire.] June.

(A. Stem ascending, bent at the joints; spike compound, fulvus. cylindrical; glumes obtuse, hairy; awn the length of the calyx; anthers roundish. *E. bot. E.*)

TRIANDRIA. DIGYNIA. Alopecurus.

E. bot. 1467.

Awns very fine and soft, not longer than the blossom.
Root fibrous.

Tab. hist. 1. p. 512—*C. B.* 1h, 42—*Ger. em.* 14. 2—*Park.* 1275. 7.

From the fineness and shortness of the *awns* this has the appearance of being awnless. *Leaves* broader than in any of the preceding, sheathing the straw quite up to the top, the sheath much wider than the thickness of the straw, and widest upwards. *Spike-like panicle* cylindrical, two inches long, a quarter of an inch broad, pale green. *Anthers* fine orange, so that the flowering plant may be distinguished at some distance. (Dr. Withering long ago suspected this to be a distinct species, in which opinion Dr. Smith has recently concurred, adding that the anthers are totally different in form from those of *A. geniculatus*, being not half so long, nor of a linear shape, but very short, thick, and almost round, deeply cloven at each end, bursting by an oval orifice at each side, when old they turn quite white. The plant is larger than *A. geniculatus*, and the spike more compound.

Orange-spiked Foxtail Grass. A. geniculatus var. 4. With. Ed. 4. Floats in water. Swainsthorpe, near Norwich. Mr. STONE. E.)—[In a marshy place by the Stews in Edgbaston Park.]—(Bridge near Audrey Causeway, Cambridgeshire. Rev. R. RELHAN. E.) P. August—September.

monspeli-
ensis.

A. Panicle spike-like; calyxes rough; blossoms awned.

Kniph. 12—*H.* ex. viii. 4. row 2. 3—*Park.* 1166. 3—*Panicle, Barr.* 115. 2.

Resembles *Al. paniceus*, but thrice as large. *Calyx* husks rough, but smooth at the edge; both valves awned. LINN.

Bearded Foxtail Grass Phleum crinitum. Fl. Brit. and Bot. Arr. Ed. 2. since made *Agrostis panicea* in E. bot. 1704. Marshes and wet pastures. Purfleet, Essex. About two miles from Portsmouth, near Drayton. RAY.—(Near Clay, Norfolk. Mr. HUMPHREY. E.) A. June—July.

paniceus.

A. Panicle spike-like; calyxes set with soft hairs; blossoms awned.

Kniph. 12—*Schreb.* 20. 3—*Barr.* 115. 1—*Burb.* v. 66. 1.

Very much resembles *A. monspeliensis*, but the whole plant is soft, and only five or six inches high. *Calyx* husks downy; woolly at the edges. LINN. Blossom 2 valves, awn the length

of the larger valve, issuing from its points. *Spikes* full one inch long, and a quarter of an inch broad. Both this and the preceding species having a blossom with two valves, do not well accord with the Generic character, nor does the shape of the calyx allow them to range with the *Phleums* as was proposed by Schreber. They will probably sometime be arranged under a new genus, with something like the following ESSENTIAL CHARACTER. *Calyx* 2-valved, valves fringed, 1-flowered. *Blossom* two valves, outer valve awned.

Bearded Cat's-tail Grass. Phleum crinitum β Huds. Fl. Brit. Dry soil. A. July.

MIL'IUM. *Cal.* 2-valved, 1-flowered; valves nearly equal; *Blossom* very short; *Summits* pencil-shaped.

M. Panicle spike-like; flowers with awns. lendi'gerum.

Schreb. 23. 3—*E. bot.* 1107—*Pluk.* 33. 6—*Gouan. hort.* 1. 2—*Branch of the panicle, Scheuch.* 3. 11. C.

Panicle strap-spear-shaped, glossy, one inch and half to three inches long, three-eighths to half an inch broad. *Calyx* bellying, polished, and colourless at the base, finely serrulated at the edges, the longer valve awn pointed, *Blossom*, larger valve terminating in four little teeth, the smaller valve in two; much smaller than the calyx. *Awn* jointed; fixed above the middle of the larger *blossom* valve; as long as the larger *calyx* valve; deciduous.

Panick Millet. Alop. ventricosus HUDS.—Meadows and pastures.—Isle of Shepey.—[Near Weymouth. LIGHTFOOT.—Amongst wheat, Gillingham, Norfolk. MR. WOODWARD.]

This cannot properly be considered as an *Alopecurus*, because the blossom is 2-valved. If it must be removed from the *Milium*, it would best arrange as an *Agrostis*, but the remarkable polished swell at the base of the calyx, in the hollow of which the blossom lies, seems sufficient to establish it in its present situation.

A. Aug.—Fl. Brit.

M. Flowers in panicles, scattered; awnless. effu'sum,

Curt. 248—*Fl. dan.* 1143—*E. bot.* 1106—*H. or.* viii. 5. 10—*Ger.* 6. 1—*C. B. th.* 141—*Park.* 1153. 1—*Portion of the panicle, Leers* 8. 7—*Scheuch.* 3. 6—*Floret. Mont.* 61.

Three or four feet high. *Leaves* half an inch or more in breadth. *Panicle* tall and wide, spreading, very much scat-

tered from the various lengths of the secondary fruit-stalks which grow in whirls and give the plant an airy, light, and elegant appearance.

Soft Millet. Millet Grass. Wet woods common. Frequent in Norfolk. Mr. WOODWARD.—Plentiful in woods about Wick Cliffs. Mr. SWAYNE.—(Speake, seven Miles S. of Liverpool. Dr. BOSTOCK. E.) A. May—June. P. *Fl. Brit.*

AGROS'TIS. *Cal.* 2-valved, 1-flowered, rather smaller than the blossom: *Outer* petal smooth: *Summits* set lengthwise with stiffish hairs.

OBS. Such is the *Ess. Char.* given in the *Syst. veget.* and in the later editions of the *Sp. plant.* But as it does not apply very happily to any of our species the following is offered.

AGROS'TIS. *Cal.* 1-flowered, 2-valved, spear-shaped, acute, generally rough on the keel; longer than the blossom: *bloss.* 2 valves; (unequal, membranaceous. SMITH. E.) *Summits* hairy.

For similar reasons the following characters of the British species have been formed upon an attentive examination of the fructification only, and are disposed in this tabular form to facilitate the investigation of the species, which appeared necessary to be done on account of the difficulties they have occasioned, and the confusion in which they have been involved.

SYNOPSIS OF THE SPECIES.

(1) *With awns.*

A. Spi'ca-ven'ti. *Cal.* husks nearly equal: *bloss.* valves equal: *awn* twice the length of the blossom, fixed just beneath its point.

A. palustris. *Cal.* husks equal: *bloss.* outer valve twice the length and breadth of the inner: *awn* shorter than the blossom, fixed just beneath its point.

A. can'na. *Cal.* husks nearly equal: *bloss.* valves very unequal: *awn* twice as long as the blossom, fixed just beneath its middle.

A. vinea'lis. *Cal.* husks equal: *bloss.* valves nearly equal: awn as long as the blossom, fixed just beneath its middle.

A. pallida. *Cal.* husks unequal: *bloss.* inner valve hair-like, very short: awn rather longer than the blossom, fixed beneath its middle.

A. alpīna. *Cal.* husks unequal: *bloss.* with hairs at the base: awn twice the length of the blossom, fixed near its base.

A. littora'lis. Panicle spike-like: calyx awned.

(2) *Without awns.*

A. al'ba. Panicle large, spreading: calyx, both valves serrulated on the keel.

A. nīgra. Panicle scattered, branches bare at the base; florets few: calyx, inner valve smooth.

A. stolonifera. Panicle compact; branches short, stiff, densely crowded with florets at the base: calyx, inner valve smooth; outer only serrulated upwards.

A. mari'tima. Panicle large, rather spreading, longer branches naked at the base, shorter crowded with florets: calyx, inner valve smooth, outer serrulated upwards.

A. vulga'ris. Panicle spreading: branches bare at the base; florets numerous: calyx, inner valve smooth, outer serrulated upwards: *bloss.* inner valve but half the size of the outer, deciduous.

A. min'ima. Calyx, husks equal, blunt, smooth.

(1) *With awns.*

A. Petals entire, outer petal with a stiff, straight, and very Spi'ca-ven'ti, long awn: panicle spreading. LINN.

E. bot. 951—*Fl. dan.* 853—*H. ox.* viii. 5, row 2. 3—*J. B.* ii. 462—*Leers* 4. 1—*Scheuch.* 3. 10.

Straw smoothish. Leaves flat, rough. Sheath-scale fringed. Panicle 8 to 12 inches long; branches from 2 to 4 inches. Calyx, valves nearly equal, one of them slightly serrulated. Blossom,

valves equal in length, the inner narrower. *Awn* straight, near thrice the length of the blossom, and fixed immediately below its point.

Silky Bent. Sandy fields common, particularly amongst corn. A. June—Aug.*

palustris.

A. Calyx husks equal, blossom outer valve twice the length and breadth of the inner; awn straight, much shorter than the blossom, fixed a little beneath its point.

Straw nearly smooth, creeping and sending out fibrous roots and branches from the joints as in *Agr. stolonifera*. *Leaves* broad, very rough, those on the stem from 4 to 5 inches long, very taper-pointed; those on the branches shorter. *Sheaths* rough. *Sheath-scale* long. *Panicle* 6 inches long, branches half to 2 inches, spreading, the longer ones bare at the base, the shorter ones crowded with florets down to the main fruit-stalk. *Calyx*, husks equal, both serrulated on the keel, the inner only on its upper half. *Blossom* one quarter shorter than the calyx, outer valve with a short awn, fixed beneath its point; inner valve but half the length and breadth of the outer. *Awn* two thirds the length of the outer valve of the blossom, and fixed half its own length below its point.

Specimen from Dr. Goodenough, who considers it as an awned var. of the *Agr. alba palustris* of Hudson; but until the facts supporting this opinion of the accidentality of the awns be fairly brought forward, and fully established, we must consider it as a distinct species, though certainly approaching very near to the *Agr. alba* in its general habit.

[In swamps and moist ditches. Dr. GOODENOUGH.]

P. June—July.

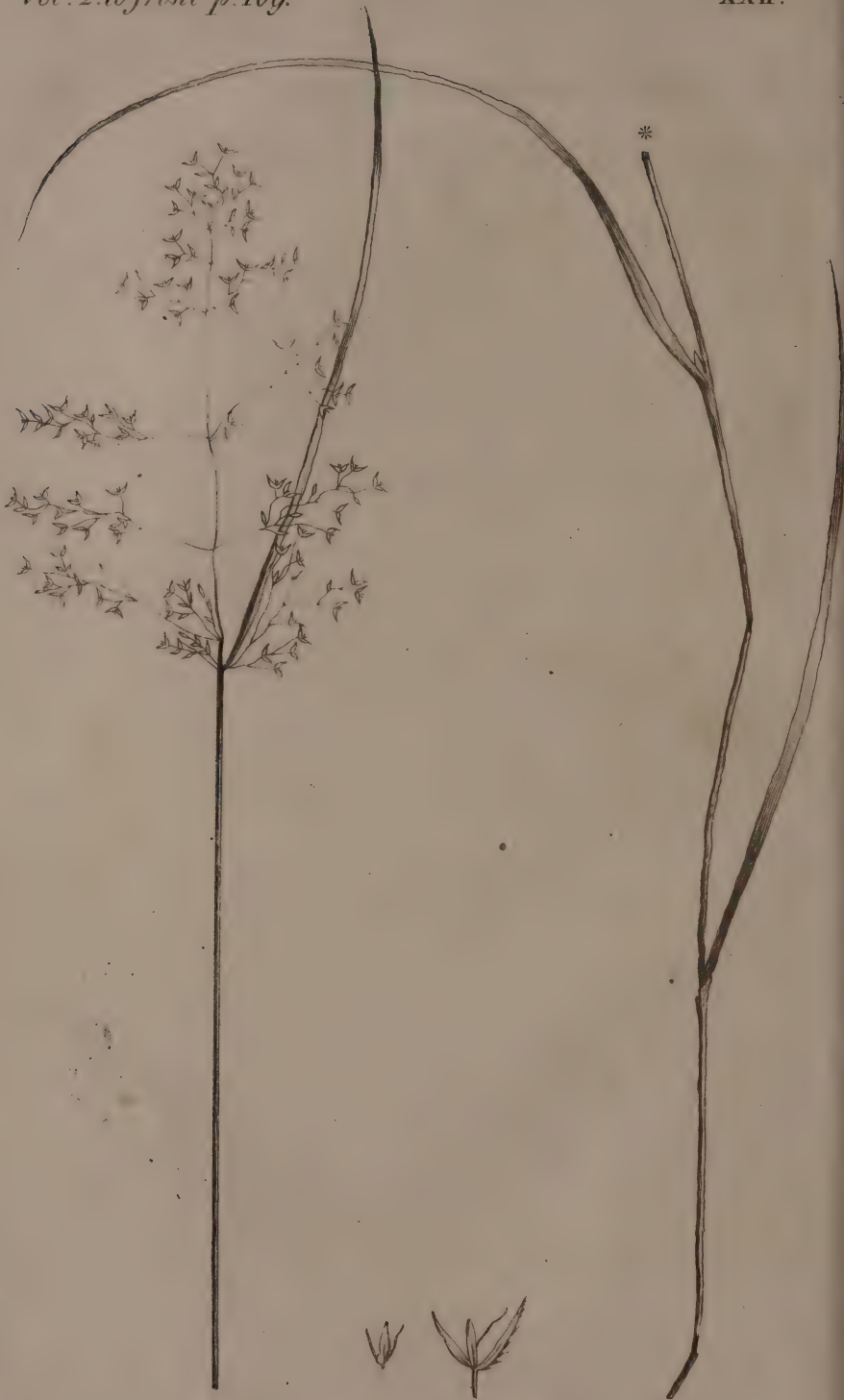
canina.

A. Calyx valves nearly equal: blossom valves very unequal: awn jointed, twice the length of the blossom, fixed just below its middle.

Leers 4. 2—*Fl. dan.* 161, (exact as to the flower, but seems a starved specimen.)

About half a yard high; branching from the root. *Straw* and *Root-leaves* smooth. *Stem-leaves* roughish. *Sheath-scale* very short, cloven. *Panicle* 3 to 5 inches long, either purple or white. *Branches* 1 to 1 and a half inch. *Calyx* valves unequal in the flowering but equal in the seeding state; the outer only serrulated on the upper half; the inner smooth. *Blossom* inner valve very minute, but one third the length, and one fourth the breadth of the outer. *Awn* bent, twice as long as the blossom, and fixed just beneath its middle.

* It is liable to be smutted. *Str.* Horses and goats eat it, sheep refuse it.



Agrostis pallida.

This is not the *Agr. canina* of LINN. nor of HUDS. though that trivial name is applied to it because it is the name of Leers and Fl. dan. and as the *Agr. canina* of LINN. is now referred to another species, no confusion can arise from the use of this name. The specimens now before me perfectly accord with the fig. of LEERS as well as with his description, but they do not shew the brown knot upon the awn mentioned by him, but he observes that this does not appear until the flower is old. (This is the *Agrostis vulgaris* β of Dr. Smith, who thinks it differs only from the *Agr. vulgaris* α in being awned. E.)

[On the Long Down, a meadow near Blymhill. Rev. S. DICKENSON.—High Moors in Scotland, not unfrequent. Mr. BROWN.]
A. June—Aug.

A. Calyx coloured; awn from the back of the blossom almost as long as the calyx; straws ascending. *vinca'lis*.
SCHREB.

E. bot. 1856—Scheuch. 3. 9. D. E. (awns much longer than depicted.)

Straw smooth, trailing and striking out fibrous roots at the joints, then ascending; from 6 to 12 inches high. *Root-leaves* very slender, smooth, numerous. *Stem-leaves* broader, 1 and a half inch long; rough. *Panicle* from 3 to 5 inches long; *branches* half to 1 and a half inch. *Calyx* valves equal, only the outer serrulated. *Blossom* valves nearly equal. *Awn* straight, as long as the blossom and fixed just beneath its middle.

The panicle and its branches of a fine red purple, but as it ripens, the florets change to yellow brown, and both the awn and the inner valve of the blossom are deciduous.

Brown Bent-grass. *Agrostis canina*. Fl. Brit. (and of Linn. according to Dr. Smith.) [On heaths, and in moist pastures which have been long in turf.—In the Long Down, at Blymhill. Rev. S. DICKENSON.—Some parts of Hounslow Heath abound with it. Rev. Dr. GOODENOUGH.]
P. July—Sept.

A. Calyx valves unequal; blossom inner valve hair-like, *pal'lida*. very short; awn somewhat longer than the blossom, fixed below its middle.

PLATE XXII.

About 18 inches high. *Straws* smooth. *Root-leaves* bristle-shaped, roughish. *Stem-leaves* much broader, flat above the sheathing part, and roughish. *Sheath-scales* long, pointed. *Panicle* a delicate pale green, about 3 inches long. *Branches*

from half to 1 inch, but little expanding. *Calyx* valves unequal, the outer serrulated all along the keel, the inner only towards the point. *Blossom* inner valve deciduous, more like a very short and slender hair than a husk, and so minute that it is with difficulty found. *Awn* jointed, very slender, deciduous, somewhat longer than the blossom, and fixed beneath its middle.

This I apprehend is what has sometimes been considered as an awned *Agr. alba*; it is clearly what has been called an awned *Agr. capillaris*, (meaning our *A. vulgaris*,) but it is sufficiently distinct from both.

[New Forest, Hants.] May—June.

alpina.

A. Leaves like bristles; panicle compact; calyx rough, coloured; bloss. outer valve with a jointed awn on its back —Gmel. Hairy at the base. St.

Scheuch. prodr. 4. 1—E. bot. 1188.

About 9 inches high, just sensibly rough to the touch. *Root-leaves* numerous, like bristles, in bundles, about one fourth the height of the straw, smooth when old. *Sheath-scale* long, pointed. *Panicle* 2 to 3 inches long, purplish blue. *Branches* not spreading, thickly set with florets, seldom more than half an inch long. *Calyx* valves unequal, both smooth below, but serrulated upwards; nearly twice as long as the blossom. *Blossom* surrounded at the base by a few fine short hairs; *outer* valve with 2 or 4 minute projecting points at the end; *inner* valve very minute, not longer than the germen. *Awn* jointed, twice the length of the blossom, and fixed near to its base. The hairs at the base of the blossom, distinguish this from every other British species.

Bristle-leaved Bent-grass. Agrostis canina β. Hudson. *A. setacea*. Fl. Brit. [On the higher Downs in Dorsetshire, and the higher parts of the New Forest, Hants, plentiful.]—(It abounds in Cornwall.—On Bagshot Heath. CURTIS.—Moors in Yorkshire. E.) P. May—June.

littoralis.

A. Panicle somewhat spike-like; calyx husks awned.

PLATE XXIII.

From 5 to 7 inches high; often several flowering stems from the same root. *Straw* bent at the bottom, straight upwards, smooth. *Leaves* slender, rough, 2 or 3 on the stem, sheathing; *sheath-scale* spear-shaped. *Panicle* compact, spike-like, 1 and a quarter to 2 and a half inches long, scarcely half an inch broad, pale green, branches extremely crowded, close. *Calyx*, husks, the lower half rough on the keel, upper half smooth, awned. *Awns* 3 times as long as the husks, fixed below its point, 1 to



Agrostis littoralis.

each husk, straight, diverging. *Blossom* 2 valves, smooth, awnless, one much broader than the other; one quarter the length of the calyx. This is the only British species with the awns on the calyx.

(Our plant and the figure which I drew from a specimen now in my possession, appear to me to be very similar to the representation in *E. bot.* 1251, except that in that work one valve of the corolla is depicted with an awn, whereas in our figure both valves are decidedly awnless. Dr. Smith does not hesitate to assert that we have adopted *Phleum crinitum* for *Agrostis littoralis*; however on comparing the characters and specimens we cannot assent to that supposition; nor do we expect entirely to be able to explain away this obscurity, till a more full investigation of the subject shall have been made. Towards an immediate illucidation I only add the following note, attached to one of several specimens by the author of this work:—"In the small wild specimens the blossom has no awn; in the large cultivated ones the larger valve of the blossom has a short awn, but it is deciduous after flowering." *E.*)

Specimens from Wells, on the Norfolk coast; (likewise from Essex.—Near the Powder Magazine about four miles from Woolwich. Mr. JACKSON in *Bot. Guide.* *E.*) P. June.

(2) *Without awns.*

A. Panicle large, spreading; calyx both valves serrulated; al'ba. straw trailing.

Var. 1. Panicle branches crowded with florets at the base.

E. bot. 1189—*Leers* 4. 5—*H. or.* viii. 6. row 1. 27.

Panicle loose, calyxes awnless, equal. *Sp. pl.* *Stem* striking root at the joints. *Flowers* roughish. LINN. *Panicle* either brown or green. *Pet.* gram. *Straw* smooth, upright, but trailing at the base. *Leaves* broad, rough, those on the stem 3 to 5 inches long. *Sheaths* rough. *Sheath-scale* long, spear-shaped. *Panicle* 5 to 8 inches long; *branches* 1 to 1 and a half inch long, rather upright, crowded with florets quite down to their union with the main fruit-stalk. *Calyx* both valves serrulated on the keel. *Blossom* inner valve but half the length and breadth of the outer.

The specific characters affixed by LINNÆUS to the *Agr. alba* and *stolonifera*, are so insufficient to distinguish them, that other botanists have been greatly at a loss how to refer to those species; he does not cite any figure of either, and his synonyms afford but little assistance. Thus under *Agr. alba*, the reference to *Pet. gram.* 118 and 119, only informs us that it is a large grass,

and that the panicle is either brown or green. The reference to *Ray Syn.* 404, tells us little more than that it is an awnless grass, and grows in tufts. Under *Agr. stolonifera* the most instructive reference is to *Scheuchz.* 128 and 130, but SCHEUCHZER's descriptions are hardly sufficient to remove the difficulty, and we have still no figure to assist us. Mr. HUDSON, apparently to get rid of difficulties, throws them altogether under the comprehensive title of *polymorpha*, including no less than seven species and varieties, amongst which we find the *capillaris*, the *pumila*, the *stolonifera*, the *alba*, and the *sylvatica* of LINNEUS, a list not only comprehending all but one of the awned species of *Agrostis*, then known as natives, but also some species which have not yet been found with us. It is sufficient at present to say, that the figure of LEERS referred to above, is a very exact representation of the plant now spoken of, and this LEERS calls the *Agr. alba*, though not without a mark of doubt.

Marsh Bent Grass. Gramen alpinum, panicula fere arundinacea, spadiceo-viridi. Scheuchz. 131. Wet ditches, bogs and marshes. P. June—July.

Var. 2. Only the shorter branches of the panicle crowded with florets at the base; calyx both valves serrulated.

Panicle three to five inches, branches half an inch to one inch and half long, the longer branches bare at the base, the shorter ones crowded with florets. *Calyx* both valves serrulated on the back. *Blossom* inner valve but half the length and breadth of the outer.

I believe it to be the preceding plant when growing in a dryer situation. I have specimens which shew that they gradually run into each other.

[Amongst wheat, in light sandy loam, in a field called Church Hill, Blymhill, Salop. Rev. S. DICKENSON.] P. July—Sept.

Var. 3. Only the shorter branches of the panicle crowded with florets at the base; longer branches subdivided. *Calyx*, inner valve only serrulated upwards.

Roots creeping, white, thick. *Straw* two feet and a half high; very thick, smooth. *Leaves* large, rough. *Panicle* of a beautiful purple, from seven to nine inches long; branches one inch and half to two inches and half long. *Calyx*, outer valve strongly serrated, inner with only a few minute serratures near the point. *Blossom*, inner valve but half the length and breadth of the outer.

It has large creeping roots, resembling those of *Triticum repens*, and so vigorous and pointed at the end, as to perforate potatoes which lay in their way. The stems run upon the surface of the ground to the extent of two feet or more, like those of the *Agr. stolonifera*, but the latter has only small fibrous

roots striking out of the joints of the stem, which lie upon the ground to a great extent. Mr. DICKENSON.

In loamy soil, amongst wheat, and even in very light sandy soil under the Norfolk course of turnip husbandry. [In a field at Blymhill, called Church-hill, amongst potatoes, and in another called Pyehill, amongst wheat. Mr. DICKENSON.] P. July—Sept.

Var. 4. Panicle branches bare at the base: subdivided: calyx both valves serrulated, inner only on the upper half.

Straw trailing, striking root, thick, near a yard long. *Leaves* large, very rough. Mr. DICKENSON. *Panicle* eight or nine inches long, pale green; branches one inch and half to two inches and half long; bare at the base, subdivided upwards.

[Amongst wheat in light land. Mr. DICKENSON].

P. July—Sept.

All the above varieties are sufficiently common; the second, third, and fourth constitute the greater part of what is called *Squitch* in light arable lands. In some places it is called *white squitch*, to distinguish it from the *Agr. nigra* and *stolonifera*, which are called *black squitch* or *couch-grass*.

A. Panicle scattered; branches bare at the base, florets few; calyx inner valve smooth; root creeping. *nigra*:

Leers 4. 6.

Root-leaves long and slender. *Straws* upright, eighteen inches high. *Panicle* meagre. *Fruit-stalk* fine deep purple. *Florets* deep brown. Mr. DICKENSON. *Straws* numerous, upright, slender, weak, a foot high; the lower joints sending off branches which creep on the ground. *Leaves* slender, flat, weak, smooth, generally shrivelled. *Leaf-scale* short, blunt. LEERS.—*Stem-leaves* three to four inches long. *Panicle* four inches and half to five inches and half, branches one to one and a quarter, very slender, straight, expanding, of a blackish brown colour. *Florets* few, thinly scattered at the ends of the branches.—*Calyx*, outer valve serrulated, inner smooth, rather shorter.—*Blossom*, inner valve barely half the length and breadth of the outer.

Gramen caninum supinum minus. Scheuch. 128. *Gramen montanum miliaceum minus, radice repente*. Ray Syn. 402. given upon a supposition that there is no mistake in his reference to SCHEUCH. This plant has sometimes been considered as the *Agr. stolonifera* of LINN. but it is very different from that, and seems to have been figured by no one but LEERS, who also is inclined to refer it to the *A. stolonifera*, but subjoins a mark of doubt. Both this and the real *A. stolonifera* are indifferently called by the farmers *black squitch*.

[In marley, clayey, and other cold wet soil, whether in grass or tillage. Mr. DICKENSON.] P. July—Oct.

stolonifera. A. Panicle compact, branches stiff, short, densely crowded with florets at the base: calyx inner valve smooth, outer only serrulated upwards.

E. bot. 1582—*Lob. ic.* 21. 1—*Park.* 1174. 4—*Ger. em.* 26. 1
Tabern. 516. vi.—*C. B. th.* 13—*Ger.* 24. 1—*J. B.* ii. 480.
1. was probably intended for it, but is a miserable cut.

Panicle branches straddling, awnless. Straw creeping. Calyxes equal. LINN. Straws creeping, smooth, purplish, striking out fibrous roots from numerous joints. Leaves very rough, one to three inches long; broad in proportion to their length. Sheaths smoothish. Sheath-scale rounded. Panicle two inches to two inches and half long; branches half an inch to three-eighths of an inch, crowded with florets quite down to the union with the main stem. Calyx, outer valve only serrulated on the upper half; inner valve smooth. Blossom inner valve two-thirds the length and one-third the breadth of the outer.

Black Squitch. Fiorin Grass. *Gramen radice repente, panicula densa spicata, spadiceo viridi, locustis exiguis muticis.* Schench. 130. *Ag. stolonifera.* LINN.—Moist meadows and pastures; also in cold stiff arable lands. In a close called the Far Wet Croft, at Blymhill, Staffordshire. Mr. DICKENSON.—(Near Liverpool, Mr. SHEPHERD.—Very abundant about the new enclosures and by the sides of the roads over Denbigh Green, and in various other parts of North Wales. E.)

P. July—Sept.*

* In clayey arable lands this is a troublesome couch or squitch, for when such lands are broken up and fallowed, the roots are with difficulty separated by the harrows from the adhesive soil. Our farmers call it black squitch. Mr. DICKENSON. At Orcheston, St. Mary, about 11 miles from Salisbury, there is a small tract of meadow land, half a mile from the village of Shrewton, which is sometimes watered in the winter by means of a spring flowing out of a limestone rock. It is mown twice in the summer, and after a favourable season for watering, the first crop is near 5 tons per acre; the second about half as much. This extraordinary produce very properly excited the attention of the Agricultural Society established at Bath, and from the reports made to that society, it appears that the crop principally consisted of the *Agrostis stolonifera*. Such also was the opinion of Mr. STONHOUSE, who seems first to have noticed it in *Howe's Phytologia*, p. 51 referring to *Gerard* 26. 1. The attention which Mr. SWAYNE has since given to this subject makes it probable that this grass is only found in the second crop, and that the first principally consists of the *Poa trivialis palustris*. See vol. I. II. of the *Memoirs of Bath Agr. Soc.* (Notwithstanding the strong prejudice existing against this grass among all farmers of the old school, and

Var. 1. *minor*. Very diminutive, from two to three inches high: stiffer and more glaucous than the foregoing. Peculiar to the sea coast. Mr. GRIFFITH.

A. Panicle large, rather spreading; branches, longer ones naked, shorter ones crowded with florets at the base: calyx inner valve smooth, outer serrulated upwards. *maritima*.

Dod. 558—Ger. em. 23. 1.

Straw creeping, striking out fibrous roots from the joints, then ascending; eight or ten inches high, smooth. *Leaves* and sheaths rough. *Panicle* two to four inches long, branches one to three-eighths of an inch. *Calyx* outer valve serrulated on the upper half, inner valve smooth. *Blossom* inner valve one half the length, and one third the breadth of the outer. It may possibly prove only a variety of *A. stolonifera*, but until evidence be given of that, the roughness of the leaves, the different structure of the panicle, and the smaller size and greater plumpness of the florets are sufficient grounds of distinction. (Dr. Pulteney adds, the most distinguishing characteristic is the length of the *vaginal leaf*, which extends beyond the panicle. E.)

the evil report of some agriculturists, others of more recent date have advocated its utility very powerfully. It appears that *Poa trivialis reptans* and *Agrostis stolonifera* have been much confounded with each other, probably from their similarity of general character, and frequently growing intermixed, though there can be no reason to doubt the latter being the real *Fiorin Grass*, the merits of which are likely to be fully ascertained by the public attention, which the subject at this time attracts. For various particulars we would refer the curious enquirer to the *Gent. Mag.* and *Monthly Mag.* for 1809 and 1810; to *Young's Annals of Agriculture* for 1794. vol. 22. and especially to an *Essay* by the Rev. Dr. Richardson of Clonsilla, in which many experiments are detailed tending to prove that *Fiorin Grass* produces hay preferred by cattle to all other, and near treble the quantity afforded by any other grass; that this enormous produce is not the exhausting effort of a single year, but the regular crop to be expected; that an English acre of meadow yielded in 1808 above 16,000 pounds weight, and the same extent of another meadow in 1809 produced 18,000 pounds of choice hay: that this grass is equally serviceable for winter green food, by which succulent provender which cows may be well supported from December until late in April; that by the transmissals of Dr. Richardson, it is already under cultivation in many places, both in England and Scotland; that the slightest catch of the ground is sufficient for its existence and nourishment; that it is in a great degree indifferent to the extremes of wet and drought, and is found in health at all altitudes; that it is perfectly insensible to the severities of cold, that it can bear great privations both of air and sun, and that its universality of growth is most remarkable. It abounds in morasses and moors where other grasses cannot contend with it, on thin dry soil as well as wet, extending up the bleakest mountains of our harsh climates, and therefore appears particularly suitable to such unproductive and extensive tracts as Dartmoor, Exmoor, and others in England; the highlands of Scotland, the sterile wastes of Wales, or the bogs of Ireland. E.)

Sea Bent Grass. Gathered by Dr. Pulteney in the sand on our Southern sea coasts.—(On the North shore at Poole; at Swanage and elsewhere: also in the Isle of Wight. E.)

P. June—July.

vulgaris.

A. Panicle spreading, branches bare at the base; florets numerous; calyx inner valve smooth, outer serrulated upwards; blossom inner valve but half the size of the outer; deciduous.

Gram. pasc.—*Fl. dan.* 163—*E. bot.* 1671—*Mus. rust.* iv. 2. 10—*Stillingfl.* 3—*Leers* 4. 3.

Straw sheaths and lower leaves smooth; *upper leaves* rough. *Sheath-scale* half egg-shaped, all the leaves very slender. *Panicle* fine glossy purple, three to six inches long. *Branches* one to two inches, very slender and delicate: pretty much expanded. *Florets* very small, numerous. *Calyx*, valves equal, acute; outer serrulated on the upper half, inner smooth. *Blossom* inner valve narrower and but half the length of the outer.

This plant has been very generally supposed to be the *Agr. capillaris* of LINN. an error which originated with LINNÆUS himself, who first distinguished and characterized his *capillaris* in the *Fl. Lapon*, and in the first edition of *Sp. Pl.* but afterwards confounded it with the plant now in question. We are indebted to Dr. SMITH for this discovery. See his *Icones Plant. fasc. iii. p. 54.* In general habit the plants are certainly very much alike, but the real *Agr. capillaris* has the stem, the leaves, and the husks of the calyx quite smooth, as well as every other part of the plant, whilst in the *Agr. vulgaris* the stem leaves are rough, and the husks of the calyx are serrulated on the keel as they are in every other British species of *Agrostis* except the *minima*. Again, in the *capillaris* the valves of the blossoms are equal, but in the *A. vulgaris* the inner valve is only half the size of the outer.

Fine Bent Grass. *A. capillaris.* Huds. and Bot. arr. ed. ii. Very common, but chiefly growing on poor dry and sandy land. It is disliked by cattle, as are the Bents in general. Mr. SWAYNE.

P. May—July.

Var. 2. *dwarf.*

Lightfoot. ii. frontispiece.

Whether the plant Mr. LIGHTFOOT found in Scotland be the real *Agr. pumila* of LINNÆUS I have not the means of deciding, but neither his fig. nor description well agree with the character of that, the panicle not being 1 rowed, nor pointing in one direction. The specimens now before me from Scotland and from Yarmouth, are only starved plants of the *Agr. vulgaris*, and

when cultivated in a garden from seed, produced perfect plants of the usual size and appearance.

Dwarf Bent. Agr. polymorpha pumila. Huds. *Agr. pumila.* Lightfoot. *Agr. vulgaris* γ. Fl. Brit. In poor barren soil. [Found on Yarmouth Denes, by Mr. WOODWARD.] P. July.

Var. 3. *Sylvatica.* Blossom after flowering growing out to twice the length of the calyx.

Agrostis polymorpha sylvatica. Hudson. *Gramen miliaceum sylvestre glumis oblongis.* Pet. conc. 121. Ray Syn. 404. BUDDLES. Woodmillet-grass, first discovered by him in Bishop's Wood, Hamstead. *Agr. sylvatica*, LINN. if he has rightly quoted RAY and HUDSON, but he speaks as if the calyx and not the blossom was the elongated part. *Agr. vulgaris* δ. Fl. Brit. The seed also grows unnaturally long and black. The blackness on the main fruit-stalk and at the base of many of the florets indicate a state of disease, but whether it be produced by an insect, or a kind of smut, remains to be determined, though I think it probably the effect of too much moisture. In one specimen the calyx was preternaturally long and dark purple at the end, but still the greatest elongation was that of the blossom.

In Hornsey Wood. HUDSON.

P. June—Aug.

A. Panicle very slender, like a thread. LINN.

min'ima.

E. bot. 1127—*H. ox.* viii. 2. row 3. 10—*C. B. th.* 26—*J. B. ii.* 465. 4—*Schœuch.* 1. 7. I.

Plant about 2 inches high, very slender and of a delicate pale green; smooth; even the valves of the calyx are smooth, which is not the case with any other British species of *Agrostis*. *Spike* a quarter of an inch long, containing about 6 florets. The structure of the florets seems to correspond with that of the *Agr. capillaris* of the Linn. Herbarium, (see *Smith's Icones Fasc. iii.* p. 54.) but in this the florets form a spike, in that a panicle. *Spike-stalk zig-zag.*

Knappia agrostidea. *E. bot.* It is difficult to decide the proper place of this elegant little grass. The florets being perfectly sessile on each side of a zig-zag spike-stalk, would direct us to the last subdivision of the grasses, (see p. 62.) but there is no genus in that subdivision to which it is in the least allied. The florets have the habit of a *Poa*, but unlike all others of that genus there is only one in each calyx, and the calyxes are strictly seated upon a spike-stalk. Its dissimilitude to the *Agrostis* has already been noticed.

Least Bent Grass. Found by Mr. STILLINGFLEET in Wales.—(Frequent in sandy pastures on the south-west coast of Anglesea. Rev. H. DAVIES. *Fl. Brit. E.*) A. July.

HOL'CUS. Florets hermaphrodite and male. *Cal.*
husk 2 valves, with 1 to 3 florets.
Hermaphr. *Awn* twice the length of the blossom.
Male. *Awn* as long as the blossom.

lana'tus.

H. Husks 2-flowered, woolly; hermaphrodite floret awnless: male floret with a bent awn, inclosed in the calyx.

Gram. pasc.—*Dicks. h. s.*—*Curt. 228*—*E. bot. 1169*—*Fl. dan. 1181*—*Schreb. 20. 1*—*Leers 7. 6*—*J. B. ii. 466. 3*—*Scheuchz. 4. 24.* *A. B.*—*Park. 1155. 1*—*Anders.*

The whole plant of a velvet-like softness. LINN. *Male floret* containing a pistil. *Germen* similar to that of the fertile floret, but much smaller. *Styles* awl-shaped, simple. *Seed* very minute, abortive. CURTIS. *Panicle* from 2 to 8 inches long, and from 1 and a half to 3 and a half inches broad. *Leaves* rather rough but not harsh to the touch. *Calyx* husks unequal. Both florets on short pedicles, the upper one hermaphrodite, awnless; the other male, with an awn not longer than the blossom. (Dr. Smith has also observed in some, but not all of the male florets, an abortive pistil. *Fl. Brit. E.*)

Meadow Soft-grass. Meadows and pastures, common.

P. June—July.*

mol'lis.

H. Roots creeping: joints woolly: awn protruding out of the calyx. CURT.

Dicks. h. s.—*Fl. dan. 1059*—*Curt. 323*—*E. bot. 1170*—*Leers 7. 7*—*Schreb. 20. 2*—*Scheuch. 4. 25.*

The Linnæan character which represents one of the florets as male, does not agree with our plant, we have therefore adopted that given by Mr. Curtis. *Root* creeping. *Leaves* soft. *Panicle* 3 to 5 inches high, and 1 and a half to 2 and a half broad. *Calyx* husks nearly equal. *Florets* both hermaphrodite, 1 on a pedicle, awned, hairy at the base; awn twice the length of the blossom: the other sitting, awnless, and not hairy at the base. The young botanist would expect to find this plant in the genus *Aira*, and certainly not without reason.

Creeping Soft-grass. Cornfields, hedges and woods.

P. July—Aug.

* This grass, though vegetating rather late in the season, produces an abundant crop; but it is not very agreeable to cattle, and makes a soft, spongy hay, very unfit for horses. It abounds chiefly in light and moist soils, such as turf or peat land. A plot of it, sown by the writer of this, was entirely killed by a long frost. Mr. SWAYNE.

H. Calyx 2-flowered; awn of the male floret knee-bent, avena'ceus, fixed to the back of the blossom. GMELIN. See *Avena elatior*.

AIRA. Cal. 2-valved; 2-flowered; without any intervening substance between the florets.

(1) *Florets awnless.*

A. Panicle expanding; florets without awns, smooth, aquatica, longer than the calyx; leaves flat.

Curt.-E. bot. 1557-Vaill. 17. 7-Floret, Mont. 60.

Straw with two joints. SCOP. About a foot high. Leaves broad, smooth, short. Panicle 4 or 5 inches long, 2 to 3 inches broad when expanded; purplish.

Water Hair-grass. Grows generally in the margins of pools and standing waters, seldom on banks. Mr. SWAYNE.—S. W. side of Edgbaston Pool, near Birmingham. P. May—July.

(Var. 1. minor. The whole plant only from about 3 to 5 inches high.

North shore, Liverpool. Dr. BOSTOCK.—The same variety appears to have been communicated to Dr. Smith from Parkgate, Cheshire, by the Rev. T. Gisborne. E.)

(2) *Florets awned.*

A. Leaves flat; panicle expanding; petals woolly and cœspitosa, awned at the base; awn straight, short.

E. bot. 1453-H. ox. viii. 5. row 3. 17, and row 2. 1-Leers 4. 8-Ger. 5. 1 and 2-Ger. em. 5. 1 and 2-C. B. th. 34. 2 and 35-Park. 1158. 2 and 3-Dod. 561. 1-J. B. ii. 461. 3-Fl. dan. 240-Scheuch. 5. 2 and 3.

Sometimes trails on the ground to the length of several feet. Panicle of a beautiful purple silky appearance. Mr. DICKENSON; 6 or 8 inches high, or more, and half as broad. Awns the length of the blossom.

Turfy Hair-grass. Moist meadows and woods.—(Very frequent in Scotland. Mr. KNAPP. E.) P. June—Aug.

Var. 2. Panicle viviparous. LIGHTFOOT. (Sheaths very smooth. E. bot.

E. bot. 2102.

Smooth-sheathed Hair-grass. A. lævigata. E. bot. On Highland mountains. [In Yorkshire. Mr. MILNE.] (Moun-

tains of Clord, Angusshire; and sea side near Dundee, in which latter situation it is said not to be viviparous. Mr. G. DON.—On Ben Arthur, by Loch Long. Mr. BORRER and Mr. HOOKER. *E. bot. E.*) Oct.*

flexuosa.

A. Leaves like bristles; straws almost naked; panicles diverging; fruit-stalks serpentine.

E. bot. 1519—*Schreb.* 30—*Fl. dan.* 157—*Scheuch. pr.* 6. 1—*H. or. viii.* 7. row 3. 9. at the corner, &c.—*Leers* 5. 1.

About a foot high when young, taller when old. *Panicle* fine glossy purple, from 2 to 3 inches long, and half an inch broad; branches serpentine and nearly upright in its young state, the florets mostly pointing one way; as it approaches maturity the purple fades, the branches expand so that the panicle then measures 1 or 1 and a half inch across. *Blossom* woolly at the base. *Awn* knee-bent, half as long again as the blossom.

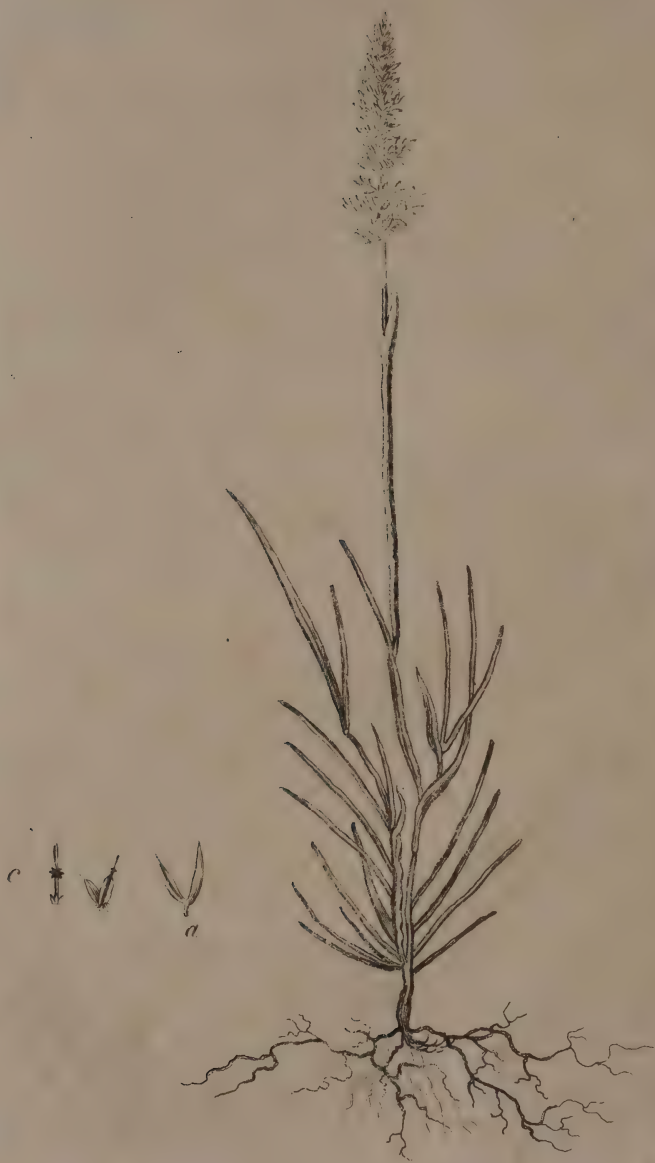
Heath Hair-grass. Waved Hair-grass. Heaths, woods and barren pastures. [Wick Cliffs. Mr. SWAYNE.—Rocky moors in the North. Mr. WOODWARD.—Crib y Ddeseil. Mr. GRIFFITH.—Dry woods in Sutton Park, Warwickshire, and woods in the New Forest near Stoney Cross, Hampshire.] P. June—Aug.

(Var. 2. Panicles slender and compact: fruit-stalks scarcely serpentine: leaves short, somewhat rigid, almost all root-leaves. *Fl. Brit.*

Scheuch. itin. p. 455. f. 15—*Scheuch. pr.* 4. 4—*Stillingf.* 4—*Leers* 5. 2—*Florets, Scheuch.* 4. 16. A. B. C.

This is the plant hitherto supposed to be the *Aira montana* of Linnaeus by Hudson, Relhan, Leers, and so named in the former editions of this work, but I apprehend the real *A. montana* of Linn. has not been found in this island, for all which I have seen are decidedly the same species, only that when the plant grows older, the straw increases its length, the panicle spreads, and its fine purple colour fades, in which state it has been called *A. flexuosa*, and in its younger state *A. montana*. The figures in Scheuchzer's *Itinerary* and *Prodromus*,

* It is very apt to grow in tufts, and occasions irregularities in the surface of meadows. Cows, goats, and swine eat it. Horses are not fond of it. The leaves of this grass are the roughest and coarsest of all the grasses growing in pasture or meadow grounds, and therefore cattle will seldom touch them, unless forced by hunger. It produces an abundant quantity of leaves, and few flowering straws; has a very disagreeable appearance in meadows, and often occupies much ground which might be made to produce better grasses. To get rid of it, the land should first be drained, and then the tufts of this noxious weed should be pared up and burnt. The ashes will be a good manure. Called by the common people *Hussocks, Rough Caps, Bulls Faces.* Mr. SWAYNE.



Aira canescens.

quoted by Linnæus in *Fl. Suec.* countenance this opinion. Having communicated these ideas to Mr. Relhan, who thought he had found the *A. montana* in Cambridgeshire, he authorizes me to say that his plant is only the *A. flexuosa*.—From this statement it would appear that scarcely a permanent variety can be established from the supposed *A. montana*. I however, for the present, follow the arrangement of Dr. Smith, who also declares the *A. montana* of Linn. to be a very different grass, not yet discovered in Britain; and that the *A. setacea* of Huds. ed. 1. is exactly this variety of *A. flexuosa*.

A. flexuosa β. Fl. Brit.

Var. 3. Straw more leafy : panicle white : fruit-stalks scarcely serpentine.

Scheuchz. prodr. 24. 6. 1—*Moris. t.* 7. f. ult.

Leaves half the length of the straw, rather flaccid, sheathing the stem higher up than in the other varieties.

In shady places.

Fl. Brit. E.)

A. Leaves like bristles ; sheaths rough ; flowers in a panicle ; awn not longer than the calyx.

E. bot. 1190—PLATE XXIV.—*Fl. dan.* 1023 ; but the panicle much larger and more expanded than as it grows with us—*Lob. adv. alt.* 466. 1—*J. B. ii.* 463. 2.

Awns encompassed with little teeth in the middle part, brown and thick below, but whitish, slender, and somewhat club-shaped above. After flowering the panicle rises higher out of the sheath ; before flowering it resembles a spike. This is paler than most other grasses, and from that circumstance may be distinguished at first sight. LINN. Panicle scarcely ever coming out of the sheath. No plant alters its appearance more completely when cultivated than this, growing much larger, quite upright, and losing entirely its grey colour. Mr. WOODWARD. From 4 to 6 inches high. Root-leaves very slender. Stem-leaves broader. Panicle spike-like, purplish, 1 and a half inch high, half an inch broad. Calyx husks unequal ; (Pl. 24, a.) Awn the length of the shorter husk, nearly twice as long as the blossom. The structure of the awn is remarkable, the lower half is thicker, opaque, and yellow brown, the upper half very fine, whitish, semi-transparent, fixed to the centre of the broad top of the opaque woody part, which is encompassed with very minute teeth. (Pl. 24. c.) (Anthers purple, giving a cast of colouring to the panicle. E.)

Grey Hair-grass. Sandy shores. [Yarmouth Denes. Mr. WOODWARD.]—(On the North shore, near Poole. PULTENEY. E.) P. July—Aug.

præ'cox.

A. Leaves like bristles; sheaths smooth, angular with furrows; panicle spike-like; awn taller than the calyx.

Dicks. h. s.—*Curt.* 146—*E. bot.* 1296—*Fl. dan.* 383—*Pluk.* 33. 9—*Ray* 22. 2.

From 2 to 5 inches high. *Spike-like panicle* 1 to 1 and a half inch long, less than a quarter of an inch broad. *Blossom* valves cloven at the end, nearly as long as the calyx. *Awn* twice as long as the calyx, in structure similar to that of the *A. canescens*, but wants the broad top to the lower opaque part. Sufficiently distinct from the *A. canescens*, and flowers earlier. (Dr. Smith likewise says that this species is annual, whereas the *A. canescens* is undoubtedly perennial. E.)

Early Hair-grass. Dry commons. [On dry parts of the New Forest.] Flowers in May. Seeds ripe in June.

P.—*A. Fl. Brit.*

caryophyl-
le'a.

A. Leaves like bristles; sheaths smoothish, furrowed; panicle wide spreading when ripe; awns taller than the calyx.

Dicks. h. s.—*Curt.*—*E. bot.* 812—*Fl. dan.* 382—*H. ox.* viii. 5. row 3. 11—*Stilling.* 5—*Scheuch. iter.* ii. 18. 2—*Barr.* 4. 1—*Scheuch.* 4. 15.

Varies very much in size, from 2 to 12 inches high. *Panicle* few-flowered; close whilst in flower, widely expanding when in seed. *Blossom* shorter than the calyx. *Awn* twice as long as the blossom, fixed below its middle, yellow and opaque in the lower, paler and finer in the upper part. The larger plants somewhat resemble the *A. flexuosa*, but want the zig-zag fruit-stalks and the woolliness at the base of the blossom. The smaller plants may be distinguished from the *A. præcox* by the panicle expanding when ripe, and by the awn being less than twice the length of the calyx. It is moreover an annual plant.

Silver Hair-grass. Sandy pastures, frequent. [On the beach at Lowestoff, Suffolk, and elsewhere. Mr. WOODWARD.—Roddyhill. Mr. SWAYNE.] A. July.

MELICA. *Cal.* 2-valved, 2-flowered, with a little substance (the rudiment of a third flower. Dr. SMITH. E.) on a pedicle betwixt the florets: *Nectary* 1 leaf: *Stamens* dilated at the base.

nu'tans.

M. Petals not fringed; panicle drooping, undivided.

Curt.-E. bot. 1059—*Fl. dan.* 962—*Schreb.* 6. 1—*C. B. pr.* 20.
and *th.* 155—*Park.* 1151. 5—*Barr.* 95. 2. and 96. 2—*J. B. ii.*
434. 1—*Leers* 3. 4—*Scheuch.* 3. 16. *D. E. F.*

Calyx valves shorter than the blossom, dirty purple, outer egg-oblong, shorter; inner oval. *Blossom* valves oblong; outer scored, whitish, sometimes tinged with purple; inner a good deal shorter, pubescent. *St.* *Panicle* 3 or 4 inches long, few flowered, flowers mostly pointing one way. *Branches* only 3 or 4, and those not subdivided.

Mountain Melic. *Melica montana.* HUDS. Mountainous woods in Yorkshire, Westmoreland, and Cumberland. [Helkewood, by Ingledon, Yorkshire. Mr. WOODWARD.—Grasswood, near Conniston. Mr. CALEY.]—(Lower part of Garrey wen rocks, close to the river near Garn, Denbighshire. Mr. GRIFFITH.—Frequent in the woods of Cheshire, as Early Banks-Wood, &c. Mr. BRADBURY in *Bot. Guide.*—Castle Eden Dean, Durham. Mr. WINCH, ditto. E.) P. June—July.*

M. *Panicle* compact: flowers cylindrical; straw without cœrulea knots.

Curt.-E. bot. 750—*Fl. dan.* 239—*H. ox.* viii. 5. row 3. 22—*Leers* 4. 7.

Root bulbous. *Leaves* flat. *Straw* for a great length without knots. *Florets* awl-shaped, rolled in at the edges, sometimes 3, and in very rich soil, 4 in each calyx. A *pedicle* knobbed at the end rises from betwixt the florets. *Anthers* purplish blue. *Pistils* purple. LINN. *Straw* with only one knot, which is close to the root. SCHEUCH. *Straw* near half a yard high. *Panicle* 3 to 5 inches long. *Branches* few, distant, nearly upright. *Calyx* with 2, 3, or 4 florets, but mostly with 2; and though the number of florets, and its general habit, which it must be confessed but ill accords with that of the other *Melicas*, have led some botanists to consider it an *Aira*, the presence of the pedicle marks its real situation. In some specimens gathered in the New Forest the florets are a little hairy at the base, which circumstance seems to have induced Haller to rank this species as an *Arundo*.

Purple Melic. *Aira cœrulea* Sp. pl. HUDS. LEERS. SCOP. *Arundo.* HALL. Boggy barren meadows and pastures. [New Forest, Hants.] P. June—July.†

* In the isle of Rasa this grass is made into ropes for fishing nets, which are remarkable for lasting long without rotting. Pennant's Tour 1774. p. 297. Cows, horses, and goats eat it.

† Horses, sheep, and goats eat it. *Chermis graminis* is found upon it. LINN.—In the turf moors below Glastonbury, Somerset, in great abundance. The country people make of the straws of this grass a neat kind of besoms,

uniflo'ra. M. Panicle thinly set; calyx with 2 florets, one hermaphrodite, the other neutral; (calyx with one flower. SMITH. E.)

Curt. 301—*E. bot.* 1058—*Fl. dan.* 1144—*Mont.* 2. 1—*H. or.* viii. 7. 49—*Villars* 3—*Lob. adv. alt.* 465. 1—*J. B.* ii. 434—*Park.* 1151. 3.

Little spike of neutral florets, inversely egg-shaped, between the blossom and the inner valve of the calyx, together with its fruit-stalk as long as the blossom, composed of the rudiments of 3 and even 4 florets, each consisting of 2 membranaceous valves similar in shape to those of the perfect floret; each supported on a fruit-stalk of its own, rising from the base of the inner valve of the last rudiment; and each as small again as the floret below it. No stamens or pistils in any of them. Conjectured to be a var. of the *nutans*, and called it *M. nutans uniflora*. From 15 to 18 inches high, or more. *Straw* angular, ascending. *Panicle* of few flowers, scattered, 3 to 5 inches long. *Branches* 3 or 4, distant, pointing one way, rarely subdivided, bowed whilst in flower, afterwards upright.

Wood Melic. *M. Lobelii.* VILLARS. *Melica nutans.* HUDS. Woods and hedges, not uncommon. Lanes in Devonshire very frequent. Plantations of J. PEARSON, Esq. Tettenhall, Staffordshire.—(Between Leatham and Blythe Hall, near Ormskirk. Dr. BOSTOCK. E.) P. May—July.

SESLE'RIA. *Involucr.* 2 leaves: *Cal.* 2-valved, with from 1 to 3 florets; *Bloss.* toothed at the end: (*Outer valve* 3-toothed; *inner valve* 2-toothed. *Fl. Brit.* E.)

cærulea. S. Straw undivided; spike egg-oblong; (outer petals with 3 teeth. *E. bot.* E.)

Dicks. h. s.—*Jacq. pl. rar.* 21—*E. bot.* 1613—*C. B. pr.* 21. 1. and *th.* 158—*Park.* 1152. 6—*Scheuch.* 2. 9. *A. B.*

Straws oblique. *Leaves* betwixt sea-green and bluish. *Spike* sometimes white. LINN. *Spike* from half to nearly one inch. SCHEUCH. *Seeds* hairy. *Calyx* valves ending in awn-like points. HALL. *Bunch* spike-like, egg-oblong. *Florets* on short

which they sell to the housewives in the neighbourhood, as a cheap and no despicable substitute for hair brooms. Mr. SWAYNE.—Flourishes in the neighbourhood of the copper works at Parys mountain in Anglesea, while almost every other vegetable, even Lichens, are injured or destroyed. PENN. *Wales* ii. 265.

fruit-stalks, purplish livid, or brownish white. *Involucrum* roundish, embracing the spike-stalk, gnawed, membranaceous, shorter, but thrice as wide as the *calyx*; the lower one at the base of the bunch, the other a little higher up at the base of the florets of the opposite side. *Calyx* containing mostly 2 florets, sometimes a little longer, at others rather shorter than the florets, edges and keel bearded. *Blossom valves* equal in length, edges and keel bearded; *outer* with 5 ribs, cloven at the end into 4 teeth, ending in awn-like points, the two middle ones shorter, with the keel running out from between them into a short awn twice as long as the teeth. *St.* From 6 to 9 inches high, trailing and afterwards ascending. *Straw* with a single sheath, ending in a short leaf. *Leaves* broad, strap-shaped, with a strong mid-rib. *Spike* lead colour, or greyish, sometimes purplish as represented in Jacquin.

Cynosurus ceruleus. LINN.—*Aira varia*. JACQ. *enum.* who remarks that Linnæus has improperly placed it in the genus *Cynosurus*, it having no affinity to that family. *St.*

Blue Moor-grass. Mountainous pastures in the North, (both in England and Scotland; E.) sometimes in marshes. Crevices of the Lime Rocks at the foot of Ingleborough. *St.*—Lime rocks, Conzick Scar, Kendal. Mr. GOUGH and Mr. WOODWARD.—Malham Cove, and on most of the Lime rocks in Craven, Yorkshire. Mr. CALEY.—(On both banks of the river Wear, and on all the limestone hills between South Shields and Clea-don. Mr. WINCH in *Bot. Guide*. E.) *P. Apr.*—June.

PO'A. *Cal.* 2-valved, many flowered: *Spikets* egg-shaped: *Valves* skinny at the edge, rather acute.

(1) *Panicle spreading.*

P. *Panicle* spreading; *spikets* strap-shaped, 6-flowered. *aquat'ica*

Curt. 330—*Fl. dan.* 920—*E. bot.* 1315—*H. ox.* viii. 6. 25—*Ger.* 7. 2—*C. B.* 40—*Ger.* 6. 2—*C. B. th.* 38—*Ger. em.* 6. 1—*Leers* 5. 5—*Scheuch.* 4. 1—*Mont.* 38.

Calyx containing from 5 to 10 florets. *Straw* 6 feet high. LINN. *Straw* from 4 to 6 feet high; upright, 2 edged, smooth. *Leaves* straight, keeled; rough on the edge and the keel. *Sheaths* cylindrical, scored, smooth. HUDSON. *Leaves* broad, channelled. *Panicle* 8 or 10 inches high, and 4 or 5 broad, purplish. *Spikets* egg-spear-shaped. CURTIS.

(It sometimes exhibits viviparous flowers, Mr. DAVIES in *Fl. Brit.* E.)

Reed Meadow-grass. Marshes and banks of rivers.

P. July—Aug.*

dis'tans. P. Panicles with subdivided branches; spikets 5-flowered; florets distant, blunt; calyx, valves very unequal.

E. bot. 986—PLATE XXV.

From nine to twelve inches high, or more. *Straw* bent at the lower joint; smooth. *Root-leaves* short, stiffish, slender, smooth. *Stem-leaves* sheathing, rough at the edges near the end. *Sheath-scale* short, broad. *Panicle* about three inches long, two inches wide: *branches* in distant whirls, four or three in a whirl, greatly expanding; when ripe still more so. *Spikets* five or six-flowered. *Calyx* smooth, one valve twice as large as the other. *Blossom* smooth, skinny at the edge and the point, not woolly at the base, unequal, blunt.

Loose-flowered Meadow-grass. *Aira aquatica distans.* HUDS. (Between London and Hampstead. CURTIS.—By the banks of the river at Yarmouth, Norfolk. Mr. WOODWARD. E.) Sandy places near Exmouth.—About Northfleet in Kent, and in Yorkshire and Lancashire. P. June—July.

graten'sis. P. Panicle spreading; spikets 5-flowered, smooth; straw cylindrical, upright, LINN. Sheath-scale short and blunt. CURT.

Gram. pasc.—Curt.—*E. bot.* 1073—C. B. 28—H. ox. viii. 5. 18—*Stilling.* 6—*Leers* 6. 4—*Scheuch* 3. 17—*Anders.*

(*Spikets* egg-shaped, 4-flowered, often 5-flowered, green, changing to a purplish colour. *Fl. Brit. E.*) From one to two feet high. *Panicle* heavy when in seed, not greatly diverging, two to four inches long, and more than half as broad. *Leaves* much less rough than in *P. trivialis*, but not always smooth.

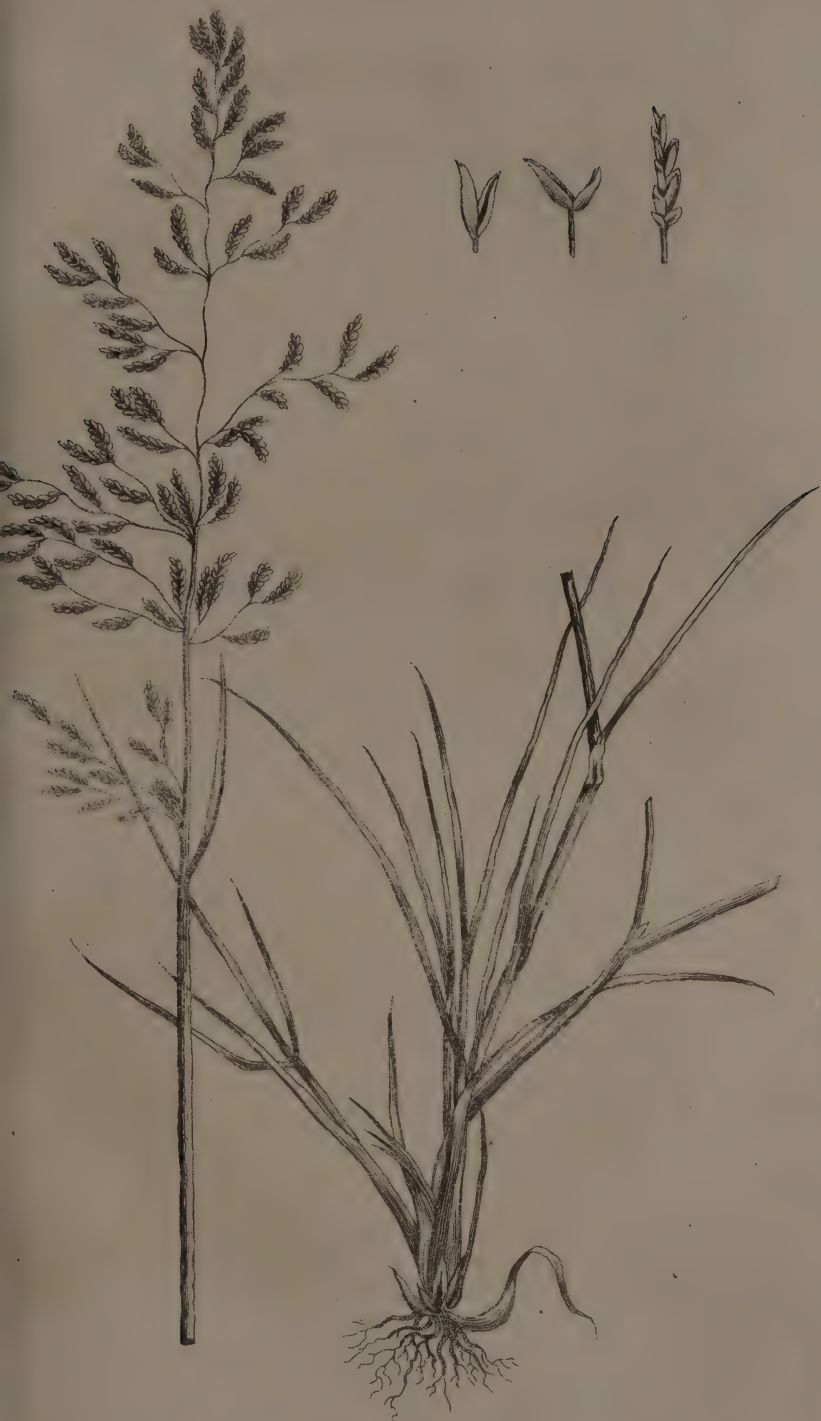
Smooth-stalked Meadow-grass. Meadows, dry banks, and even on walls. It constitutes a considerable part of the herbage on the rich meadows in the flat parts of Somersetshire.

P. May—June.

Mr. Swayne observes, that in meadows which have been flooded the whole winter it flourishes so as nearly to exclude every other grass. *Bath Soc.* vol. ii.

Var. 2. *setacea.* Leaves slender, straw smooth.

* It is an extremely useful grass to sow upon the banks of rivers or brooks. Horses, cows, and sheep are exceedingly fond of it.



Poa distans.

H. or. viii. 5. 19—Leers 6. 3.

Spikets 3-flowered, pubescent root-leaves like bristles. *Huds.* *Spiket* florets three or four, not merely woolly at the base, but likewise along the keel. This seems to be what Mr. Hudson considered as a narrow-leaved var. of the *P. trivialis*, but the smoothness of the whole plant, and the shortness of the sheath-scale induces me to place it with the *P. pratensis*. Mr. Curtis has remarked that the sheath-scale in the *P. trivialis* is always long and pointed, in the *P. pratensis* short and blunt. If this hold true universally there cannot be a doubt of this var. belonging to the *pratensis*. The florets when ripe adhere together by the woolly hairs at the base and on the keel of the blossom, as Linnæus observes to be the case in his *P. angustifolia*.

(*P. angustifolia*. Bot. arr. ed. 4. *P. pratensis* β. Fl. Brit. *P. nemoralis* β. Fl. Brit.? E.) Woods and Hedges. [In Hertfordshire. Mr. WOODWARD.] P. June.

P. Panicle spreading, very much branched: spikets 4 to alpi'na. 6-flowered, heart-shaped.

Scheuch. pr. 3. 4—E. bot. 1003.

Florets from two to five in each spiket. *Scheuchz.* (with a few hairs at the base, but wanting the long web which connects the florets of most Poa. *E. bot. E.*)

Var. 2. *viviparous*. Panicle viviparous.

Fl. dan. 807—Scheuch. it. i. 4. 2—Scheuch. 4. 14.

About seven inches high. *Panicle* two to three inches long; only some of the florets viviparous.—(Mr. Griffith who by growing this variety for eighteen years in his garden, finds it uniformly viviparous, is inclined to think it ought to be considered a distinct species. *E.*)

(*Alpine Meadow-grass*. Inch Earn, North of Forfar. Mr. MACKAY. Fl. Brit. *E.*) On Snowdon. [Crib y Ddeseil. Mr. GRIFFITH.—Malghyrdy, Benteskerny, and on Ben Lawers. Mr. BROWN] P. June—July.

(P. Panicle zigzag; spikets of 3 flowers; glumes egg-shaped, flexu'osa. connected by a web; leaf-scales all spear-shaped.

E. bot. 1123.

Colour light, rather glaucous green. *Stems* ascend obliquely, often bent at the joints. *Leaves* spreading, narrow, sharp, roughish above, with long, lax, flattish sheaths. *Panicle*

egg-shaped, rather dense, its stalks angular, zig-zag, especially at the base. *Spikets* broad-egg-shaped, rather glaucous. *Calyx-glumes* a little unequal, hardly falcate, acute, rough at the keel, white and thin at the edge, and stained with purple toward that part. *Florets* shaped and coloured much like the calyx, or rather less egg-shaped, margin smooth, not silky, keel rough, bases connected by long hairs. *Inner glumes* rough at the edge.

Differs from *P. alpina* in its glaucous hue; straw more leafy, leaves narrower, more acute, and rough above; fruit-stalks more or less zig-zag; glumes narrower, connected at the base by hairs.

Zig-zag Meadow-grass. Discovered by Mr. JOHN MACKAY on Ben Nevis, in Scotland; growing in small tufts.

P. July. *Fl. Brit and E. bot.* E.)

bulbo'sa. P. Little spikes egg-shaped; florets smoothish, acute; straw upright, bulbous at bottom. HUDS.

E. Bot. 1071—*Vaill.* 17. 8.

Panicle branched, the branches angular, roughish. *Little spikes* egg-shaped, acute; with three, four, or five florets, a little hairy at the base. HUDSON.—(The bulbs grow in clusters, resembling little onions, and during most part of summer remain blown about inactive. With the autumnal rains they vegetate, fix themselves by long downy radicles, then produce thick tufts of leaves; and in April or May they flower. By these bulbs, the serrated leaves and the woolly web connecting the floret, added to the broad veinless glumes and small panicle, this species may be known with certainty. Dr. SMITH in *E. bot.* E.)

Meadows and pastures, near Clapham, Surry. (Sandy ground near Yarmouth, Norfolk. Mr. STONE.—Plentiful at Lowestoft. Dr. SMITH.—At Little Hampton, Sussex. Mr. W. BORRER.

P. May.*

(hu'milis. P. Panicle spreading; spikets egg-shaped, mostly 3-flowered; glumes sharp pointed, connected by soft hairs; sheath-scale very short, blunt.

Scheuchz. Prodr. 20. t. 3—*E. bot.* 1004.

* (Mr. Turner observes (*Bot. Guide*) that this plant forms a principal part of the herbage of Yarmouth Denes, but that it withers very soon after flowering, and so early as in July no traces of stems or leaves are to be found. E.)

Root creeping, with hair-like fibres, whole plant glaucous green, inclining to purplish. *Straws* from a hand's breadth to a span in height, ascending, undivided, leafy, the upper parts naked. *Leaves* short, expanding, straight, bluntish, rough at the edges. *Sheaths* lengthy, flattened, scored, smooth. *Sheath-scales* all very short, blunt. *Panicle* diffuse, with little fruit-stalks hair-like, roughish. *Spikets* upright, widely egg-shaped, often 3-flowered. *Calyx-glumes* unequal, sharp-pointed, 3-nerved, green at the base, purple towards the edge. *Florets* acute, fibrous, green at the base, the middle part purple, and light red, at the edge white, skinny; all connected by abundant long and soft hairs.

This species is readily distinguished from *P. alpina*, by the florets being connected by soft hairs or thin web, by all the sheath-scales being very short, and by the creeping root.

Short Bluish Meadow-grass. P. subcærulea. E. bot. P. pratensis β. HUDS. *E. bot.* In mountainous pastures. In Westmoreland and Cumberland. HUDSON. Anglesea. Rev. H. DAVIES. P. June. Dr. SMITH, in Fl. Brit. E.)

P. Panicles spreading horizontally; branches in pairs; an'nua. spikets mostly 4-flowered; leaves flat; sheaths smooth.

Gram. pasc.—Curt. 1. 2—*E. bot.* 1141—*Stillingf.* 7—*H. ox.* viii. 5. 21—*Mus. rust.* iv. 2. 8—*Dod.* 560. 1—*Lob. obs.* 9. 1—*Ger. em.* 2. 1—*Park.* 1156. 4, the upper left hand—*C. B. th.* 31—*J. B. ii.* 465. 1—*Ger. em.* 3. 2—*Park.* 1156. 4, lower left hand—*J. B. ib.* 2. 2—*Panicle, &c. Leers* 6. 1—*Anders. called C. compressa*—Branch of the panicle, *Scheuch.* 3. 17. *E.*—*Park.* 1156. lower right hand.

Panicle branches in the middle often in threes, at the top solitary. CURTIS. *Spikets* larger than those of *P. pratensis*. Mr. DICKENSON. Growing almost every where on walls and gravel walks, as well as in the richer soil of pastures, it varies extremely in size, from 2 to 12 inches or more. *Straw* compressed, smooth. *Leaves* tender, smooth except towards the end. *Panicle* thinly set, nearly 2 inches long, and almost as broad. *Spikets* from 3 to 5 flowered. *Florets* woolly at the base and on the lower part of the keel. Its smoothness distinguishes it from the *trivialis*, its compressed straw and thinly set panicle from the *pratensis*.

Suffolk-grass. Annual Meadow-grass. Pastures, paths, gravel walks, and the borders of fields. All sorts of cattle eat it. A. April—Sept.

trivialis.

P. Panicle spreading; spikets 3-flowered, woolly at the base; straw upright, rough; sheath-scale tapering to a point. CURT.

Gram. pasc.—Curt.—E. bot. 1072—Park. 1156. 4. upper right hand fig.—C. B. th. 30.

Root creeping. The whole plant rough. One and half to 2 feet high, or more. Panicle 6 or 8 inches high, and 3 or 4 broad when fully expanded. Florets mostly 3 or 4 in each spiket, generally 3. Has some resemblance to *P. pratensis*, but its creeping root, and the great roughness of the straw and leaves, sufficiently distinguish it, though the uncertainty of the number of florets in each spiket might otherwise occasion a doubt.

Bird-grass, by which name it is known to the seedsmen. Fowl-grass. Fold Meadow-grass. Rough-stalked Meadow-grass. Moist meadows and sides of ditches. P. June—July.

Var. 2. *reptans*. Orcheston Long Grass. Stems trailing, taking root at the joints. Spikets with 2 or 3 florets.—Structure of the spikets the same as in the preceding, and the base of the lower floret equally woolly; but the great length to which it trails on the ground before the flowering stem rises up, gives it a claim to particular notice. Mr. Hudson's *P. trivialis palustris* has been supposed intended for this grass, but he quotes the spec. ch. of *Poa palustris* as given by Linnæus in the *Spec. Plantar.* which, though not well discriminated, can never be the plant in question, which Haller describes as having a calyx with awns, and so it is figured by Morrison. *H. ox.* viii. 6. 27. cited by Linnæus, and also by Hudson.

There is great reason to believe that this is the famous Orcheston grass, which, as Mr. Swayne observed to me, was mentioned by Ray (from Merret) calling it, *Gramen caninum supinum longissimum*; giving as its place of growth, Maddington, nine miles from Salisbury. Ray adds, that it is twenty-four feet long: that hogs are fatted with it, and says it also grows in some places in Wales. Ray *Syn. Indiculus. Pl. dub.* Mr. Swayne informs me that the part of the meadow in which he found this grass, is in the parish of Maddington, and that Maddington and Orcheston St. Mary are divided only by a small stream.*

* I requested the favour of Mr. SWAYNE to send me specimens of this celebrated grass, which he was so obliging to do, and also to add the following account of it, which I transcribe with pleasure, as being, I believe, the best account yet given to the public:—"The late worthy Edmund Rack, first Secretary of the Bath Agricultural Society, was sent to Orcheston, (as you read in one of their volumes,) to investigate this wonderful grass. After his return, he shewed me some specimens which

(2) *Panicle slender, compact.*

P. Panicle spike-like; Calyx husks rather hairy, 2 or 3 crista'ta. (rarely 4) flowered, longer than the little fruit-stalk; petals awned, awn-pointed.

E. bot. 648—*H. ox.* viii. 4. 7—*Pluk.* 33. 7—*Leers* 5. 6.

Root rather bulbous. *Straw* about a foot high, curved at the base, above quite straight, upright, smooth. *Leaves* short, slender, only rough towards the end. *Sheaths* smoothish. *Panicle* two inches and half high, less than half an inch broad. *Calyx* two or 3-flowered, larger valve awn-pointed. *Blossom* larger valve, tapering into a longer slender point, but not properly awned,

Crested Meadow-grass. *Aira cristata*, Sp. pl.—Fl. Brit. High barren pastures. On the edge of a marl rock, Clarkton Leap, near Worcester. St.—On Wick Cliffs. Mr. SWAYNE,—Baydales, near Darlington. Mr. ROBSON.—Henllan Village, near Denbigh. Mr. GRIFFITH.—(Broome Heath, near Bungay, Suffolk; and Denes, Yarmouth, Norfolk. Mr. WOODWARD. E.)
P. July—Aug.

he brought back with him, at the same time informing me, that the meadow had been mown before he came there, and that he had picked his specimens from the hay-mow. These were so imperfect, that it would probably have puzzled a skilful botanist to have determined the species, much less could I pretend to do this. I knew, however, enough to satisfy myself, that it was some species of *Agrostis*. I had thoughts of visiting the place myself for a long time, but the distance of 40 miles still made me defer it. At length, being on a visit to a friend in Somersetshire, he told me he had been to see the famous Orcheston grass, that he had been so lucky as to be there at the time the meadow was mowing, had been directed to the *real long grass* by the farmer and labourers at work, and had brought back with him living plants and specimens of the flowers. When he produced the latter, you may guess my surprise to find them specimens of *Alopecurus pratensis* of very large growth. I carried home with me a plant, and set it in my garden. It produced, the spring following, a very fine tuft of the flowering spikes of *Alopecurus pratensis*. This occurrence at once determined me to visit Orcheston, which I did the year following, the first week in June. When I arrived, the greatest part of the meadow, (or rather meadows, for there are several partitions, though the whole is not more than two or three acres,) indeed all, except one corner, about a quarter of an acre, had been mown, and the grass was then lying in small cocks. The standing part had one uniform appearance, and presented a thick and beautiful assemblage of the flowering panicles of what I take to be *Poa trivialis palustris* of Hudson. A specimen shall be sent for your decision. I examined the grass cocks, and no other flowers of grass appeared, except here and there a few spikes of *Alopecurus*. The grass which had not been cut, was lodged, or lying on the ground, and had put forth roots at the knots (geniculi) and began to be erect only at the last knot or two. I was informed that these meadows are mown twice annually, the first time the latter end of May or beginning of June, and the second time the latter end of July or beginning

nemoralis. P. Panicle slender, open when in flower; spikets mostly 2-flowered, pointed, rough; straw feeble.

Scheuch. pr. 2. 2-E. bot. 1265-Fl. dan. 749-Scheuch. it. ii. 18. 3-Leers 5. 3-Mont. 12.

Near two feet high. *Straw* smooth. *Leaves* very slender, just sensibly rough. *Panicle* from two to six inches high, greatly varying also in its breadth, and in the number of its branches. *Calyx* generally two, rarely 3-flowered, the keel serrulated towards the end. *Blossom* scarcely woolly at the base, but with some very fine soft and short wool-like hairs along the keel. It is not very obvious why Linnæus applies the term *rough* to the spikets, in his *Sp. char.* Its habit as to strength or feebleness varies very much.

Wood Meadow-grass. Poa angustifolia nemoralis. HUDS. Woods and shady places. Plentiful in the North. Mr. WOODWARD.—Wick Cliffs. Mr. SWAYNE.—(Charlton wood also in the South. *E. bot.* P. *E. bot.* A. June—Aug.

minima. P. Calyx 1-flowered.

Agrostis minima, which see; but it is truly a *Poa*. St.—(Dr. SMITH is of opinion that it rather ought to constitute a new genus. E.)

of August. It will readily occur to you, that no grasses, but those that flower early could be in bloom at the first mowing, and that whatever grasses are in blossom at the last mowing must be of the late flowering kinds. Mr. Davies says, in his Wiltshire Report to the Board of Agriculture, that Mr. Sole has determined the Orcheston grass to be the *Agrostis stolonifera*, and probably that grass may be predominant, perhaps the only grass in flower, at the time of the last mowing, but I think it can make no part of the first crop." Mr. SWAYNE.—On the supposition that the grass constituting the great crop of this enviable meadow is at length ascertained, it follows that its great fertility is not merely owing to the kind of grass, for that is not uncommon on the sides of broad wet ditches, and with us begins to flower the first week in June. But it has been observed that the crop in the Orcheston meadow, depends much upon the flooding of it in the winter. I will hazard a conjecture, that the advantages in flooding land, depend less upon any supposed quality of the water, than upon its temperature. That when brought over the turf soon after it issues from the spring, as is the case at Orcheston, it enjoys a temperature equal to 48 or 49 degrees of Fahrenheit's thermometer, which it communicates to the surface of the meadow and to the roots of the grass, whilst the temperature of the atmosphere is much lower; so that its action is similar to that of a hot wall upon the branches of fruit trees.—In Linn. trans. vol. 5, Mr. Maton says he is satisfied that the long grass of Orcheston is not only not a species peculiar to the spot, but that it is composed of most of the species which grow in other meadows, and this certainly appears the most probable solution of the mystery, especially when we consider the peculiarly sheltered situation and rich soil of the valley, and that vegetation in general there assumes a gigantic form.—Mr. Maton asserts, that the space of only two acres and a half has yielded as much as ten tons of hay in one year, but that the crops are not now equal to what they were formerly. (vid. *Agrostis stolonifera*. E.)



Poa rupestris.

(3) *Panicle pointing one way.*

P. Panicle spear-shaped, somewhat branched; branches *rigida*.
alternate, pointing one way; fruit-stalk bordered.

Curt. 142—*E. bot.* 1371—*Vaill.* 18. 4—*H. ox.* viii. 2. 9—*Barr.*
49—*Ger.* 4. 3—*C. B. th.* 32. 1—*Park.* 1157—*Scheuch.* 6. 2 and
3—*Mont.* 11.

Straw very short and stiff. *Panicle* spear-shaped, inflexible;
doubly compound; its *branches* alternate. *Little spikes* alter-
nate, on inflexible fruit-stalks, which are shorter than the spikes
they support; strap-shaped, sharp, about 8 florets in each.
Florets sharp and skinny at the points. *Calyx* keeled. LINN.
From 4 to 8 inches high. *Straw* smooth. *Leaves* slender, rough.
Panicle one and a half to near three inches long, quarter to half
an inch broad, upright, stiff. This may be distinguished from
all the other species by the principal or main fruit-stalk being
broad on the side opposite to the direction of the branches,
convex, and edged with a paler green border.

Hard Meadow-grass. Dry sandy or stony places, walls and
roofs. [St. Vincent's rocks. Near the mill-pool at Lilleshall,
Shropshire.] A. June—Aug.

P. Panicle spear-shaped, branches alternate; calyx ribbed, *rupes'tris*.
3 or 4-flowered; straw knee-jointed.

PLATE XXVI.—*Curt.—E. bot.* 532.

About 4 or 5 inches high. *Straw* knee-bent at the upper
joint, sheathed up to the panicle. *Leaves* short, broad, ribbed.
Panicle one and a half inch long, nearly one inch broad. *Calyx*
3 or 4-flowered; outer valve 3-ribbed. *Blossom* valves blunt.
It has not the bordered fruit-stalk of the *Poa rigida*.

Prostrate Sea Meadow-grass.—*Poa procumbens*. Fl. Brit.
Gathered on St. Vincent's Rocks near Bristol by Mr. MILNE,
who observed to me, that Mr. CURTIS first found it there; just
at the entrance into the walk from the Hotwell House.—Sir
THOMAS FRANKLAND found this plant growing on the waste
ground near the Dock, betwixt Bristol and the Hotwells; also
on the new Pier at Scarborough. It grows prostrate in circular
patches. A. June—Aug.

P. Panicle compact, branched; branches in pairs; spikets *maritima*.
oblong; florets blunt; leaves sharp, edges rolled in;
straw cylindrical, slanting. HUDS.

Dicks. h. s.—E. bot. 1140—*Fl. dan.* 251.

Root perennial, creeping. *Straw* from 6 to 12 inches high; smooth. *Leaves* on leaf-stalks, expanding, bare. *Panicle* oblong; upright, the lowermost branches sometimes a little expanding. *Florets* from 3 to 7 or 8; bluntish, smooth. *Huds.* *Leaves* rolled in so as to resemble rushes. *Panicle* purplish, but little spreading; composed of narrow, oblong spiculæ, not awned. **RAY.** (*Straw* very much reclining. **WOODWARD.** Whole plant slightly glaucous. **E.**) *Panicle* in the fig. of *Flor. Dan.* too much expanded. *Blossom* inner valve very minutely serrulated. Has been supposed to be the *Festuca fluitans* changed by a maritime situation, but this opinion is not probable, for the outer and larger valve of the blossom in this plant, wants the ribs which are so strongly marked in the *Festuca fluitans*, the inner valve wants the open cleft at the end, and besides other differences, I have examined the *F. fluitans* whilst growing in the salt marshes at Lymington, and found it vary but little from that growing in inland places. **Mr. Afzelius** believes it to be the same as the *Festuca adscendens* of **Retz.** *Prodr. fl. Scandinav.*

(*Var. 1. retroflexa* of **Curtis.** In this variety the lower branches of the panicle are often so much reflexed as to form acute angles with the culm, but as I have always found it intermixed with the other, and it does not appear to differ in any other particular, it can only be considered as a var. of *P. maritima.* **WOODWARD. E.**)

Sea Meadow-grass. Sea coast frequent. [*Salt marshes* Norfolk and Yarmouth. **Mr. Woodward.** On the river side between Bristol and the Hotwells. **Mr. Swayne.** Near the canal from Droitwich to the Severn. **Mr. Baker.**—(*North shore, near Liverpool. Dr. Bostock. E.*) **P. June—Oct.**

compres'sa. *P. Panicle* compact; straw slanting, compressed.

E. bot. 365—*Fl. dan.* 742—*Vaill.* 18. 5—*Leers* 5. 4—*Mont* 10.

Florets generally 6 in each calyx. **LINN.** *Root* somewhat creeping. *Spikets* almost sitting, near together. **LEERS.** Much larger than those of the *P. pratensis.* **Mr. Dickenson.** About a foot high. *Straw* trailing, then ascending, smooth. *Leaves* nearly smooth. *Panicle* 2 inches long, slender. *Spikets* mostly 3 or 4-flowered. *Blossom* rarely woolly at the base.

Creeping Meadow-grass. *Flat-stalked Meadow-grass.* Walls, house tops, and other very dry places. **P. June,**

decumbens. *P. Panicle* close; outer petal hairy at the edge; straw lying down.

Dicks. h. s.—E. bot. 792—*Fl. dan.* 162—*Pluk.* 34. 1—*H. ox.* viii. 1. 6—*Mont.* 2. 1—*Leers* 7. 5—*Scheuch.* 3. 16. **A. B. C.**

Calyx 3-flowered, nearly allied to *Melica*. LINN. *Panicle* not branched, about one inch and a quarter long. *Spikets* 5 or 6. *Calyx* as long as the spiket, 3 to 5-flowered, awnless. *Blossom* awnless, hairy at the edge, and sometimes at the base: outer valve larger, with 3 teeth at the end.

Festuca decumbens. Sp. Pl. Barren moistish pastures. (Toxteth Park, near Liverpool. Dr. BOSTOCK.—Pastures in Norfolk and Suffolk frequent. Mr. WOODWARD. E.) P. Aug.

P. *Panicle* open; *spikets* mostly 3-flowered; *florets* tapering to a point, woolly at the base; *leaves* awl-shaped; (*sheath-scales* very short. Dr. SMITH. E.) glau'ca.

Fl. dan. 964—*E. bot.* 1720.

(*Florets* without any complicated web at their base. *E. bot.* E.) May be distinguished from other species at a distance, by its glaucous colour. VAHL. About 10 inches high. *Stem* smoothish. *Leaves* rough at the edges. *Panicle* 2 inches long, hardly 1 broad, few-flowered, but little branched, 3 or 4 *florets* in each spiket.

Slender Glaucous Meadow-grass. Poa pratensis. β alpina. HUDS. not *P. alpina* of Linnæus, as I was assured by Mr. Afzelius. Mountains in the North of England. HUDSON. [Crib y Ddeseil. Mr. GRIFFITH.—On the rocks of Ben Lawers at great heights. Mr. BROWN.] P. June—July.

BRI'ZA. *Cal.* 2-valved, many-flowered: *Spiket* 2-rowed; valves heart-shaped, blunt; the inner minute.

B. *Spikets* triangular; *calyx* longer than the *florets*. mi'nor.

Dicks. h. s.—*E. bot.* 1316—*Kniph.* 8—*H. ox.* viii. 6. 47—*Barr.* 16—*Park.* 1165. 5.

(*Straw* erect, cylindrical, a span high, very smooth, leafy, often branched at the base. *Leaves* sheathing the stem, upright, spear-shaped, acute, flat, pale green, scored, rough at the edge. *Sheath-scale* spear-shaped, very long, embracing the stem. *Fl. Brit.* E.)

Small Quake-grass. In pastures. (Near Bath. Mr. ALCHORNE. HUDS.—At Boconnoc, Cornwall. Mr. E. FORSTER, jun. in *Bot. Guide*.—St. Vincent's Rocks. Mr. DYER. ditto. E.) [Plentifully near Penzance. June.]

A. Linn. and *Fl. Brit.* P. HUDS. July.

me'dia.

B. Spikets egg-shaped; calyx shorter than the florets.

Gram. pasc.—*Dicks. h. s.*—*Fl. dan.* 258—*E. bot.* 340—*H. ox.* viii. 6. 45—*Trag.* 670—*Barr.* 15. 2—*Ger. em.* 86. 2—*C. B.* 22. 1—*Park.* 1165. 2. 6—*J. B.* ii. 469. 2. 6—*Leers* 7. 2—*Scheuch.* 4. 8—*Mont.* 39—*Dwarf specimens, C. B. th.* 25. 1—*H. ox.* viii. 6. 46—*J. B.* ii. 469. 2—*Scheuch.* 4. 9.

(Straw a foot high or more, upright, cylindrical, leafy, very smooth. *Leaves* sheathing the stem, nearly upright, spear-shaped, acute, flat, scored, somewhat rough. *Florets* about 7, in two ranks. *Fl. Brit. E.*)

Should any difficulty remain in determining these two species from the Linnæan character, it may be observed, that in the *B. media* the inner valve of the blossom is finely fringed at the edges, but entire at the end, whilst in the *B. minor* it is not fringed at the edges, but cloven at the end.

Cow-quakes. Ladies-hair. Middle Quake-grass. Fields and pastures. P. July.*

max'ima.

B. Spikets egg-shaped, forming a bunch.

Kniph. 8—*Jacq. obs.* 60—*Ger. em.* 87. 3—*Barr. ic.* 15. 1—*Scheuch.* 4. 7.

The number of florets in each spiket very uncertain, but the number of spikets in the panicle being rarely greater than from 5 to 7, sufficiently distinguishes it from the two preceding species, which bear panicles with numerous spikets. *Jacquin* very justly observes, that it bears a bunch of spikets rather than a panicle, and that the spikets are rather egg than heart-shaped. They are each about three quarters of an inch long, and nearly half an inch broad.

Great Quake-grass. A native of the warmer parts of Europe; frequent in Italy. I have seen it in Portugal, it has been observed to propagate itself in the vicinity of London, near Newington Butts.—This spot, however, *Mr. Symons* informs me, was accurately examined in 1797 without success. A. July.

DAC'TYLIS. *Cal.* 2-valved, many-flowered; valves broader on one side: *Bloss.* 2-valves, inclosing the seed: *Nectaries* 2.

* Cows, sheep, and goats eat it. If a seed be carefully dissected in a microscope, with a fine lancet, the young plant will be found with its roots and leaves pretty perfectly formed.—A grass of no value as a pasture grass, but only as it grows on such wet parts as better grasses would not grow on, such places should be drained and manured, and then the herbage would soon be changed. *Mr. SWAYNE.*





Dactylis stricta.

D. Spikes terminating, sometimes in pairs; florets not expanding; straw and leaves stiff and straight. *HORT. KEW.*

PLATE XXVII.—*E. bot.* 380.

(In salt marshes, near Aldborough, Suffolk, which are exposed to the flux and reflux of every tide, this grass frequently covers extensive patches, to the exclusion of almost every other plant. In these places I have examined thousands of specimens without ever finding more than *two spikes*, which are so closely adpressed, as to have the appearance of a single spike. One is always longer than the other, and flowers first, and on the going off of those flowers, the lower spike pushes out its anthers. The *straw* has often a dark reddish cast, and the whole plant a blackish hue, by which the patches before mentioned may be distinguished at a considerable distance. The lower part of the *culm* terminates in a sort of bulb, from which the fibres forming the root issue. *WOODWARD. E.*) About a foot high. *Straw* curved at the base, then upright, smooth, sheathed up to the spike. *Leaves* sheathing, smooth, stiff, taper, 3 or 4 on each straw. *Spikes* 1, 2, or 3, smooth; 3 inches long, less than half an inch broad. *Florets* pointing one way. *Calyx* 1-flowered, keel-shaped, doubled together, hairy, unequal, sitting in a hollow of the spike-stalk.

Smooth Cocksfoot-grass. Dactylus cynosuroides. With. Ed. 2. *D. cynosuroides*, Huds. &c. not the *D. cynos.* of Linnæus. Marshes in Essex, and other parts of the sea coast. [Near Aldborough, Suffolk. *WOODWARD.*—Near the mouth of Feversham Creek. *VELLEY.*]—(In the Isle of Shepey plentifully. *Rev. Dr. GOODENOUGH. Fl. Brit. E.*) P. Aug.—Sept.*

D. Panicle crowded, pointing one way.

glomera'ta.

Gram. pasc.—Schreb. 8. 2—*E. bot.* 335—*Fl. dan.* 743—*H. ox.* viii. 6. 38—*Bauh. pr.* 9. 1, and *th.* 45. 1—*Mus. rust.* v. 1. 5—*Park.* 1182. 5—*J. B.* ii. 467. 1—*Barr.* 26. 1. 2—*Leers* 3. 3—*Scheuch.* 6. 15.

Florets in rainy seasons sometimes viviparous. *Mr. Woodward.* (*Leaves* strap-shaped, acute, expanding, long, of a dull green colour, scored, rough, chiefly at the edge. *Florets* 3 or 4, seldom only 1, larger than the cup, 5-ribbed, sharp-pointed, with the keel fringed. *Fl. Brit. E.*) *Stem* compressed, and aided by the sheaths of the leaves, appears to be 2-edged, especially in the stronger plants.

* (Schreber in his new *Genera Plantarum* of Linn. has introduced this species as constituting a new genus, which he names *Spartina. E.*)

Orchard-grass. Rough Cocksfoot-grass. (Very common in meadows and shady pastures. E.) P. June—Aug.*

CYNOSURUS. *Cal.* 2-valved, many-flowered; equal: *Bloss.* 2-valved, 1 valve concave, longer: *Nect.* 2-leaved.

cristatus. C. Floral-leaves with winged clefts.

Gram. pasc.—Schreb. 8. 1—*E. bot.* 316—*Leers* 7. 4—*Gisek.* 54—*Fl. dan.* 238—*Barr.* 27. 2—*Mus. rust.* iv. 2. 2—*H. ox.* viii. 4. row 3. 6—*C. B. th.* 43—*Park.* 1160. 3—*Anderson-Stillingf.* 11—*J. B.* ii. 468. 3.

Floral-leaves deeply divided into awl-shaped segments. *Husks* generally containing 3 florets. *Smaller valve* of the blossom ending in 2 points; *larger valve* ending in a short awn. *Florets* all facing one way. *Seeds* rough, with very strong, short bristles.

Crested Dogtail. (Common in dry pastures. E.)

Var. 2. Spike 4-cornered. Ray. Syn. 399.

Pastures, common. P. June—July.†

Var. 3. Spike viviparous. Observed by Mr. BROWN in the King's Park, Edinburgh, Nov. 1791; and by Sir THOMAS FRANKLAND in a pasture in Yorkshire; the plant being remarkably strong, Sir THOMAS F. is led to suppose the above effect may be occasioned by unusual vigour.

echinatus. C. Floral-leaves winged, segments awned.

E. bot. 1333—*C. B. th.* 59—*Park.* 1168. 6—*H. ox.* viii. 4. 13—*Barr.* 123. 2—*J. B.* ii. 474. 1—*Scheuch.* 2. 8. B. D.—*Mont.* 24,

* Horses, sheep, and goats eat it; cows refuse it. Thrives in the shade and under the drippings of large trees. See a farther account of it in *Mus. rust.* v. p. 45. and iv. p. 186. *Orchard Grass.* A grass rather coarse but very productive, especially in leaves, and is not disliked by cattle, unless when growing on rank soils. Mr. SWAYNE.

† The leaves of this grass are of the shortest growth of any of the pasture grasses; but they grow very close together in great abundance, and are very palatable to cattle, particularly to sheep. It is, therefore, proper to be sown in fields intended for sheep-walks, but by no means as a meadow or hay-grass. The straws of this grass are remarkably hard and tough, and as they shoot up at a season when the leaves of all the grasses are very plentiful, they are not cropped by cattle, but are suffered for the most part to stand and perfect their seeds, which seeds afford a scanty subsistence to pigeons at a season when their food is very scarce. Mr. SWAYNE.

Bunch congregated, pointing one way. *Floral-leaves* only on the outside of the flowers, alternately winged, the rays ending in awns; 1 floret in each. *Husk* 2-valved, 2-flowered, membranaceous, very fine at the point. *Blossom* 2 valves, with an awn upon the outer point. *Style* cloven. LINN.

The distinction of these 2 species may be assisted by remarking, that in the former the florets form a compact strap-shaped spike, from 2 to 4 inches long, and from a quarter to half an inch broad, but in this they form a spear-shaped bunch, whose breadth at the base is equal to about half its length.

Rough Dogstail-grass. Sandy soil in Jersey and near Sandwich. (Near Hastings, but very sparingly. Rev. Dr. GOODENOUGH. *Fl. Brit.*—St. Anthony's Ballast Hills, near Sunderland. Mr. THORNHILL and Mr. WAUGH, in *Bot. Guide.* E.)

C. *Floral-leaves* entire; spike nearly egg-shaped. See *cæruleus*.
Sesleria cærulea.

FESTUCA. *Cal.* 2-valved: *Spikets* oblong, roundish: *Husks* tapering to a point, or terminating in an awn.

(1) *Panicle* pointing one way: awns longer than the blossom.

(F. *Panicle* spreading; spikets 3-flowered; with long *tri'flora*. awns.

E. bot. 1918—*Fl. dan.* 440.

Florets slightly 5-ribbed in their upper part. *Awns* long, rough, alike terminal in all the florets, there being only now and then a slight separation of the marginal membrane. *Inner glumes* minutely rough with depressed, short hairs, not coarsely fringed. *Root* tufted, with many strong, rough fibres. *E. bot.*

This new British grass was discovered by Mr. Crowe on his estate at Saham, Norfolk, in the autumn of 1804, but few specimens have been found as yet either there or elsewhere in Britain. Dr. Smith reported this plant to the Linnæan Society. (*Lin. trans.* vol. 8. 276,) as the *Bromus triflorus* of Linn. which there is no reason to doubt its being, but its inner glumes being finely downy at the edge, not fringed, and the awns not being always inserted below the top, the Doctor has since removed it to the genus *Festuca*. It may be distinguished from the *F. gigantea* by its smaller size, and especially by having but 3, or at most 4, florets in each calyx, and a more spreading, less drooping, panicle. We are inclined to agree with the Reporter in the Monthly Magazine, (vol. 26. p. 502,) that the circumstances above point-

ed out, hardly constitute *essential* distinctions,—that difference of soil will make considerable variation in the number of florets in many grasses; as the period of growth will in the more or less spreading of the panicle.

Three-flowered Fescue Grass. Bromus triflorus. LINN.
The Rev. R. RELHAN informs me that he has found this rare grass on Hinton Moor, Cambridgeshire. P. Autumn. E.)

bromoides. F. Spikets upright, smooth; calyx valves, 1 entire, the other tapering to an awn-like point.

E. bot. 1411—*Pluk.* 33. 10—*Scheuch.* 6. 10, and 14.

Differs from the *F. myurus* in its panicle being spike-like, and the valves of the blossom not being fringed. *LINN.* *Panicle* broader and shorter than in the *F. myurus*; the spikets are also larger and broader. *Straw* with 3 or 4 joints. *RAY.* Few plants vary more in size than this does: in very dry sand on the sea shore it is sometimes only 2 inches high, as represented in the fig. of Plukenet: in more fertile soil 16 inches or more. *Straw* and *leaves* smooth. *Panicle* loose, about 3 inches long. *Spikets* from 5 to 10-flowered, but commonly 6. *Calyx* smaller valve hardly half the length of the other. *Blossom* valves smooth. *Awns* twice the length of the blossom, or more.

Barren Fescue. On walls, and dry sandy places. [On the top of Brandon Hill, near Bristol. Mr. SWAYNE.—Dry pastures near the Mass-house, Edgbaston, near Birmingham.]—(Near Bedford. Rev. Mr. HEMSTED. *E. bot.* E.) A. May—June.

myurus. F. *Panicle* spike-like, drooping; calyx smaller valve very minute; florets rough, awns very long.

Dicks. h. s.—*E. bot.* 1412—*Leers* 3. 5—*Barr.* 99. 1—*H. ox.* viii. 7. 43—*Scheuch.* 6. 12—*Ger. em.* 29. *2—*Park.* 1162. 8.

About 16 inches high. *Panicle* 5 or 6 inches long, slightly curved. *Spikets* from 4 to 8 or 10-flowered. *Calyx* very unequal, the smaller valve hardly one sixth the size of the larger. *Blossom* valves rough. *Awn* full twice the length of the blossom. *Stamen* only one. (Dr. Smith observes it varies occasionally with husks hairy. *Fl. Brit.* E.)

Wall Fescue. Capons-tail Grass. Walls and dry barren places. [On the road side leading from Blymhill to Shrewsbury. Rev. S. DICKENSON.] A. May—June.

(unigu'mis. F. *Panicle* pointing one way, upright, undivided; florets awl-shaped, compressed, awned; one valve of the calyx very short. Dr. SMITH. E.)

E. bot. 1430—*Ray* 17. 2.

From 6 to 12 inches high; slanting, cylindrical, smooth, a little branched. *Leaves* a little rolled inwards, sharp, naked, much shorter than the leaf-stalk. *Sheath-scale* membranaceous, bluntish. *Spikets* on fruit-stalks, strap-shaped; florets from 4 to 8 in each. *Fruit-stalks* short, thick, rough. *Husk* 1 valve, strap-shaped, concave, awned. *Blossom* 2 valves, unequal. *Outer valve* larger, strap-shaped, keeled, awned, rough. *Inner valve* smaller, flat, strap-shaped, awnless. *Awn* twice the length of the floret. HUDSON. (Upper florets barren; inner husk of the calyx whitish, and so exceedingly minute as to be scarcely discernable by the naked eye. *Fl. Brit.*

Wild Oat-grass, or *Drank*. *Sea Darnel*. *Single-husked Fescue-grass*. *Lolium bromoides*. Bot. arr. Ed. 4. Sea coasts, in loose sand. In Essex, Sussex, and other maritime counties. With *Arundo arenaria* on the S. W. coast of Anglesea. Rev. H. DAVIES. A.—B. June. E.†

(2) *Panicle pointing one way: awns shorter than the blossom.*

F. *Panicle* compact, awned; straw four-cornered, almost naked; leaves bristle-shaped. ovi'na.

E. bot. 585—*Mus. rust.* iv. 2. 4—*Leers* 8. 3 and 4—*Stillingf.* 8
—*Scheuch.* 6. 6—*Mont.* 5.

From 5 to 8 inches high, but twice as tall when cultivated. *Panicle* 1 and a half to 2 inches long, mostly pointing one way. *Spikets* from 3 to 5-flowered, but generally 4, and an imperfect rudiment of a fifth. *Calyx* one valve only three quarters the length of the other. *Awns* of various lengths, but generally about one sixth the length of the blossom.

Dry gravelly soil, and on stone walls. Wickcliffs. Mr. SWAYNE. P. June.*

Var. 2. *awned*. *Leers* 8. 3—*Scheuch.* 6. 8—*Mont.* 5—*Stillingf.* 8.

Var. 3. *Awnless*. See *F. tenuifolia*.

* It flourishes best in a dry sandy soil: cows, horses, and goats will eat it, but it is the favourite food of sheep; they prefer it before all other grasses, and are said soonest to grow fat upon it; for though small, it is succulent. The Tartars who lead a wandering life, tending their flocks and herds, always choose those spots where this grass abounds. LINN. Such may be its just character in the uncultivated wilds of nature, and as it perfers a dry soil, its growth is an indubitable indication of the salubrity of such places for flocks of sheep, but in a more rich and cultivated country Mr. SWAYNE tells me it is of little value as a pasture grass, being extremely diminutive, nor will it remain long in the ground if sown, but will soon give place to more luxuriant grasses.

- (vivi'para. F. Panicle pointing one way, compact; florets compressed and keeled, awnless; calyx somewhat pubescent; straw 4-cornered; leaves bristle-shaped, smooth. Dr. SMITH.

E. bot. 1355—*Scheuch.* pr. 1. 2—*Ray Syn.* 22. 1—*Barr.* 272. E.)

Mr. GOUGH informs me that vegetating germs, brought from High-street, the highest hill in Westmoreland, and planted in his garden in the year 1790, still continue viviparous, and were so even in the dry month of July 1794. He says also that he has found plants in the valley with vegetating germs on them, and from these circumstances he concludes that there is either a constitutional difference between the *F. ovina* and the *F. vivipara*, or else that the plant is uniformly viviparous. Linnæus also calls it a permanent variety, and observes that it retains its character when transplanted into a garden.

Viviparous Fescue-grass. Festuca ovina β. Linn. *F. ovina*. var. 4. With. Ed. 4. On Ingleborough, Skiddaw, Snowdon, and on most of the Scottish mountains. *Fl. Brit.*—On High-street, the highest hill in Westmoreland. Mr. GOUGH.—On Crib y Ddeseil, Denbighshire. Mr. GRIFFITH.—By the fall of Lowdore, near Keswick. P. July. E.)

- ru'bra. F. Panicle rough; spikets 6-flowered, awned; floret at the end awnless; straw semi-cylindrical.

Scheuch. 6. 9—*Stillingf.* 9—*Leers* 8. 1, a larger variety—*E. bot.* 2056?

Distinguished from the *F. ovina* by its size, its red colour when ripe, its broader leaves, and its nearly semi-cylindrical straw. LINN. It differs from the *F. duriuscula* in its broader and flat stem-leaves, in its spikets being somewhat larger, and its panicle less compressed. The bristle-shaped root-leaves, and the very short awns distinguish it from the *F. myurus*, POLLICH. Leaves on the upper side covered with a soft woolliness barely perceptible to the naked eye. Straw smooth, but within the panicle rough; green, but when the seeds are ripe, red. LINN. Taller than the *F. duriuscula*, and distinguished from it by its broader leaves. Mr. DICKENSON. Panicle of a reddish purple colour as it approaches to ripeness, and this colour sometimes extends to the leaves and the straw. About 18 inches high. Spikets 5-flowered. Calyx one valve but three-fourths the length of the other. Awns one-fourth or one-third the length of the blossom. (Dr. Smith imagines that our plant is not the *F. rubra* of Linnæus, though our specimens strongly resemble the representation of that plant in *E. bot.* E.)

Purple Fescue. Festuca ovina β. Fl. Brit. High heaths, and dry barren pastures.—(Gathered in N. Wales, by Mr. DICKENSON.—About Stoney Cross in the New Forest, Hants, plentiful.)—(Sea coast between Fôr hyd and Prestatyn, Flintshire, E.) P. June.

F. Panicle oblong; spikets oblong, smooth; leaves bristle-shaped.

Gram. pasc.—*E. bot.* 470—*Ray* 19. 1—*Leers* 8. 2—*Fl. dan.* 848—*Lob. obs.* 9. 2.

Resembles the *F. dumetorum* in its thread-shaped channelled root leaves, and its flat grass-like stem-leaves, but differs in having its husks smooth. LINNÆUS. Stem and root-leaves bristle-shaped. Little spikes small, egg-shaped; with very short awns. Panicle more contracted, distinguishes it from the *F. rubra*; its cylindrical straw, and the constant presence of the very short awns, from the *F. ovina*. POLLICH. It varies in its root-leaves being bristle-shaped and thread-shaped, and rough; in its stem-leaves being flat and channelled, and bare; in its little spikes containing from six to ten florets, and being pubescent. HUDS. From eight to twelve inches high. Panicle from two to three inches long. Calyx always smooth; in dry situations 5, in richer soil 6 or 7-flowered, besides a barren or imperfect floret at the end; one valve of the calyx but three-fourths the length of the other. Blossom inner valve always fringed at the edge; outer valve sometimes so, and sometimes not quite smooth on the back, as in the fig. of *Fl. danica*. Awn from one-sixth to one-fourth the length of the blossom. The panicle often assumes a purplish blue colour, and in that state it seems to have been mistaken for the *F. amethystina*.

Hard Fescue. Dry places as well as low and flat meadows. [Walls of Dudley Castle, Worcestershire.—Flat pastures in Somersetshire about Highbridge.] P. June.*

F. Panicle spike-like, pubescent; leaves thread-shaped. dumeto'rum.

Var. 1. Spikets wide apart, some pointing upwards, some slanting, some nearly horizontally.

Fl. dan. 700.

Root-leaves thread-shaped, four or five inches long. Panicle brown green, two inches long, half an inch broad, appearing

* A very excellent grass for the agriculturist, springing very early, being productive and grateful to all kinds of cattle, and found in most good meadows and pastures. Mr. SWAYNE.

distorted from the different direction of the spikets. *Calyx* 4 to 6-flowered, the terminating floret imperfect. *Awns* one-tenth the length of the blossom.

Festuca duriuscula β. Fl. Brit. [Restlars meadow, Blymhill, Shropshire. Mr. DICKENSON.]

Var. 2. Panicle regular, greyish green.

H. ox. viii. 2. *fig. the last; (but the pubescence not expressed.)*

Straw 12 or 18 inches high, thread-shaped, cylindrical, with two swollen joints. *Root-leaves* one foot long, roundish, scarcely 2-edged. *Stem-leaves* shorter, channelled. *Panicle* small, spike-like. *Little spikes* 10 or 12, oblong, pubescent, greyish; the upper ones sitting, solitary; the lower ones in pairs, on fruit-stalks. *Husks* terminating in a minute awn. *Bulbs* often grow within the sheath of the straw. Very nearly allied to the *F. duriuscula*. LINN. *Leaves* slender. *Panicle* five inches long, one inch and half broad. *Calyx* 8 or 9-flowered, the terminating floret imperfect. *Blossom* outer valve very hairy. *Awns* one fourth the length of the blossom. The panicle not at all like a spike, is much larger than the preceding, and has nothing of its zig-zag appearance. It is possible they may prove distinct species.

Pubescent Fescue. Festuca duriuscula dumetorum. HUDS.
Woods and hedges. P. June—July.

gla'bra.

F. Panicle branched, upright, compact; spikets awl-shaped, 3-flowered, awned, smooth. LIGHTFOOT.
(Nearly allied to the *F. cambrica*, if not the same. HUDSON.)

See also a description in Lightf. Fl. Scot. p. 1085.

Festuca rubra γ. Fl. Brit. Found at Ardbigland in Galloway, by Mr. LIGHTFOOT. P. July.

cam'brica.

F. Panicle oblong, upright, branched: spikets awned, smooth: leaves flat, naked. HUDSON.


Root fibrous. *Straw* near a foot high; slanting, cylindrical, leafy, smooth; with two or three joints. *Root-leaves* nearly upright; sword-shaped, sharpish, channelled. *Stem-leaves* two or three; on leaf-stalks; sharpish, flat, fibrous. *Leaf-stalk* cylindrical, sheathing, scored, hairy. *Stipulae* membranaceous, sheathing, blunt. *Panicle* rather compact, branched at the bottom. *Spikets* on fruit-stalks, about six florets in each, egg-shaped. *Awns* short. *Fruit-stalks* nearly as long as the spikets. Nearly allied to the *F. duriuscula*. HUDSON. When cultivated

the spikets consist of eight or ten florets, and the awns are half the length of the blossom. *Calyx* smaller valve but one-third the length of the other.

Welch Fescue. Festuca rubra β. Fl. Brit. On the highest hills about Llanberis, plentifully. [On Crib y Ddeseil. Mr. GRIFFITH.] P. July—Aug.

(3) *Panicle mostly pointing one way; awnless.*

F. Leaves like bristles, rather long, upright; straw naked. *tenuifolia*. (Fl. ox.) Spikets rough.

Leers 8. 4. -*Pluk.* 34. 2—*Monti* 4—*Anderson-Scheuch.* 6. 6.

About seven inches high. *Panicle* nearly two inches long. *Spikets* 4-flowered, roughish. *Blossom* outer valve broader and shorter than in any other of our species. *Calyx* unequal, the smaller valve about three-fourths the length of the other. *Stem* and *leaves* slender, smooth.

Gramen capillaceum locustellis pennatis, non aristatis. Ray Syn. 410. This has been considered as an awnless variety of the *F. ovina*, and it may be nothing more, but I think Dr. Sibthorpe has done well to keep it separate at present, whatever may be its place in consequence of further observations; but the want of awns, and the roughness of the spikets must, if permanent, be allowed a sufficient distinction. In the roughness of the spikets it resembles the *F. dumetorum*, but that has awns, and is full twice the size of the present plant.

Festuca ovina β *mutica*. Bot. Arr. Ed. 2. *F. ovina* γ. Fl. Brit. Dry pastures. Bullington Green, Oxfordshire. SIBTHORPE. —Sent to me by J. WYNNE GRIFFITH. Esq. from Crib y Ddeseil, Denbighshire.—(And since ascertained by the same gentleman on the rocks between the two pools at Capel Cerig, Carnarvonshire. E.) P. June.

F. *Panicle* upright; spikets scarcely awned; the outer *elation*. ones cylindrical. *Fl. Succ.*

Var 1. *Bog.* *Panicle* doubly compound, at first drooping, nearly upright when in flower; spikets egg-spear-shaped, acute, awnless; leaves flat. CURTIS.

Curt.-Schreb. 2—*E. bot.* 1593—*Leers* 8. 6—*H. ox.* viii. 2. 15—*Scheuch.* 5. 18.

Straw smooth. *Leaves* flat, broadish, very rough. *Panicle* loose, but mostly pointing one way; about seven inches long. *Calyx* very unequal, from five to eight florets in each. *Blossom*

inner valve not fringed at the edge; outer membranaceous at the edge. After flowering, this thin membranaceous part turns brown and shrivels, so that the mid-rib then naked and projecting resembles an awn.

Tall Fescue. *Festuca elatior* β . Sp. Pl. Reich. Boggy meadows and sides of wet ditches. P. June—July.*

Mr. Curtis tells us that in a cultivated state it is nearly incapable of producing perfect seeds. On considering this fact, together with what is recorded of the *F. loliacea*, it is probable that this plant is a similar hybrid production; the *F. pratensis* of our botanists being the original stock, and, as Mr. AFZELIUS observed, the real *F. elatior* of the *Fl. Suecica*.

Var. 2. *pratensis*. Panicle slanting, pointing one way; spikets awnless, nearly strap-shaped; leaves flat. CURTIS.

Gram. pasc.—Curt.—*E. bot.* 1592—*Mus. rust.* iv. 2—*H. ox.* viii. 2. 2—*Scheuch.* 4. 6—*Park.* 1146. 8.

Calyx larger valve 3-ribbed, smaller 1-ribbed. *Blossom* smooth, slightly ribbed. In *F. fluitans* the calyx valves are not ribbed, whilst those of the blossom are very strongly so; just the reverse is the case with the *F. pratensis*, so that they may at all times readily be distinguished; but the differences betwixt the *F. pratensis*, and the *F. elatior* are less obvious. Mr. Curtis observes that the panicle in the *F. elatior* has twice the number of spikets, that its branches are more compound, that it droops more at first, that it is more equally spread; that the whole plant is twice as high, and the leaves twice as broad; but he thinks the spikets afford one of the most obvious distinctions; in the *pratensis* they are somewhat flat, strap-shaped, and blunt; in the *elatior* less flattened, more ovate, and pointed.

Meadow Fescue. *Festuca Fluitans* *pratensis*. HUDS. *Festuca pratensis*. CURT. *Festuca elatior* α . Sp. Pl. *F. elatior*. *Fl. Suec.* *Festuca pratensis*. *Fl. Brit.* Rich wet meadows. P. June.

(*calamaria*). *F.* Panicle pointing one way, upright, very much branched, compact; florets oblong, angular, awnless; leaves sword-shaped, scored. Dr. SMITH.

E. bot. t. 1005.

Straws numerous, upright, three feet high, reed-like, stiff, round, scored, very smooth, leafy; contracted, and purplish at the joints. *Sheath-scales* rather short, blunt, as if gnawed. *Panicle*, for the size of the plant, small, many-flowered. *Florets* three to five, 2-rowed, distant; *husks* nearly equal, convex,

* It makes an excellent pasture, but requires a rich soil. LINN. Horses, cows, sheep, and goats eat it.

spear-shaped, sharp-pointed, awnless, skinny, compressed and keeled; *keel* slightly rough. *Anthers* strap-shaped, yellow. The *outer* valve of the *florets* largest and keeled; the *inner* with two ribs often folded together, so as to look like a simple keel, which gives them a peculiar appearance. *Fl. Brit.* and *E. bot.*

Reed-like Fescue-grass. In a moist wooded valley at the foot of Ben Lawers, 1793. Mr. MACKAY.—Near Fort Augustus. Mr. G. DONN.—In Shawley Wood, near Glashampton, Worcestershire.—In a wood, near Newton Barry, Ireland. Rev. Mr. BUTT. *Fl. Brit.* P. June—July. E.)

F. Panicle branched, upright; spikets nearly sitting, cylindrical, awnless. fluitans.

Var. 1. fresh water.—Curt.—*E. bot.* 1520—*Leers* 8. 5—*Schreb.* 3. f. 2—*Fl. dan.* 237—*Stillingf.* 10—*H. ox.* viii. 3. 16—*Ger. em.* 14. 1—*J. B.* ii. 490—*Mus. rust.* iv. 1. 6—*C. B. th.* 41—*Park.* 1275. 8—*Scheuch.* 4. 5—*Mont.* 35.

Straw striking root at the joints. *Leaves* floating flat on the water. *Panicle* very long, issuing from a long 2-edged sheath. *Spikets* cylindrical but flattened, mostly 10-flowered. *Blossom* awnless. *Valves* with strong ribs, terminating in an equal number of points, these points connected together by means of a transparent membrane.

Flote Fescue. Flote Meadow-grass. Poa fluitans. *Fl. Brit.* Wet ditches and ponds, common. P. June—Sept. P.*

Mr. Curtis observes, that growing on the land it becomes smaller in every respect, and that the panicle is frequently changed to a simple spike.

Var. 2. Salt-marsh. Leaves blunt, broader, shorter, glaucous; calyx 6 or 8-flowered.

In the Salt Marshes at Lymington, Hants. June.

(4) *Flowers in spikes.*

F. Spiked; spikets alternate, sitting, compressed, awnless. HUDS. lolia'cea.

* The seeds are small, but very sweet and nourishing. They are collected in several parts of Germany and Poland, under the name of *Manna Seeds*, and are esteemed a delicacy in soups and gruels, upon account of their nutritious quality, and grateful flavour. When ground to meal, they make bread very little inferior to that in common use from wheat. The bran separated in preparing the meal, is given to horses that have the worms; but they must be kept from water for some hours afterwards. Geese are very fond of the seeds, and well know where to look for them. The plant affords nourishment to the *Phalena Festuca*. Horses and swine will run risks to get at it. The cultivation, uses, &c. of this plant were made the subject of an inaugural dissertation, by M. Bruz, and published at Vienna, 1775.

Curt.—E. bot. 1821—*Park.* 1146. 7—*H. ox.* viii. 2. 2, the single spike.

Spike eight or ten inches long; sometimes a little branched at the bottom. *Spikets* sitting, nearly upright, containing from nine to fourteen florets. *Calyx* valves ribbed similar to those in *F. elatior*; inner valve sometimes wanting. *Blossom* not ribbed like that in the *F. fluitans*. (It is distinguishable from every variety of *Poa fluitans* by the glumes being sharp-pointed and not ribbed; from the plants of the genus *Lolium* by its bivalve calyx and paler hue; though it much resembles the *Lolium perenne*. *Fl. Brit.* Mr. Brunton states that the florets are strongly ribbed more than half way down; a remark confirmed by Mr. Dawson Turner, who adds that the nerves are most visible in young flowers, and appear to wear out by age. *Bot. Guide.* 670. E.)

Spiked Fescue-grass. Moist meadows. (Common in Yorkshire and other counties: not very frequent about London.

P. June—July. E.)

Var 2. *Spike* branched at the bottom, spikets six or 8 flowered. When this is the case the calyx has always two valves, the deficiency of the inner valve noticed above is therefore probably occasioned by the spiket growing so upright and so pressed to the spike-stalk as to destroy it whilst yet young and tender.†

† Neither of these varieties produce perfect seeds, which has been noticed by Mr. CURTIS and Mr. SWAYNE, but to the latter I am indebted for the following curious observations respecting it, as well as for very fine specimens of the plants. Mr. Swayne calls it *F. hybrida*, and a more proper name could hardly be desired, but Mr. Hudson's name having been admitted, and being also unobjectionable, I thought not right to change it.

“*FESTUCA hybrida*. Not knowing what specific appellation has been fixed on by Botanists for this Fescue, I have called it *hybrida*, from its constant *infertility*; supposing that to be the most certain criterion of an hybrid plant; and from its resemblance both to *F. elatior* var. *pratensis*, and to *Lolium perenne*, I impute its origin to an intercourse between these two plants. It should seem to be the *Festuca loliacea* of Hudson, but that I am confident it never originated from the seeds of *F. fluitans*. The valves of the calyx are very unequal, the interior one being very small, and in some specimens which I have examined, scarcely discernable, so that it appears to be nearly allied to *Lolium*. Admiring the appearance of this grass when it first occurred to me, and thinking it likely to become a good grass for cultivation, I transplanted some roots into my garden. The same season I fenced round with hurdles a considerable patch of it, which I found growing in a close in my own occupation, with a view to save the seed. But when I came to gather it, I was much disappointed, not finding a single seed in any of the spikes. Supposing this might have been owing to accident, I increased what I had in my garden till it occupied a plat of six feet square. It grew well and produced a full crop of flowering spikes. The stamens were apparently perfect, and shed a large quantity of pollen, and the pistils were protruded and expanded, as if in a state fit to receive impregnation, but not a single seed was formed. This has been its annual process for a number of years.” Mr. SWAYNE.

F. Panicle upright; spikets nearly egg-shaped, awnless; decumbens. calyx larger than the florets; straw lying down. See *Poa decumbens*.

F. Spikets sitting; straw undivided; awns shorter than the pinna'ta. blossoms. POLLICH.

Barr. 25—*Pet.* ii. *gram. ital.* 3. 1—*Wieg.* 1. 10—*C. B. pr.* 18. 1. and *th.* 133—*Mont.* 16—*Scheuch.* 1. 7. *H.*

Plant smooth, yellowish green. Lower leaves now and then somewhat hairy. Florets from 6 to 12. HUDSON. Spike 4 or 5 inches long. Spikets 8 or 10. Calyx 8, 10, or 12-flowered. Blossom outer valve with 5 or 7 strong ribs, ending in an awn, a little hairy at the edge; inner doubled down at the edge, with a rib along each side fringed with hairs. Awn hardly half the length of the blossom.

Spiked Fescue. *Festuca pinnata*. HUDS. *Bromus pinnatus*. LINN. Fl. Brit. and Fl. Cantab. Chalky soils. Dry hilly woodlands. Near Nunnington, Yorkshire. TEESDALE.—(On Burford Downs, Oxfordshire. Rev. Dr. GOODENOUGH. Fl. Brit. —Dry fields and hedges, Cambridgeshire. Rev. R. RELHAN, who, in his *Flora Cantabrigiensis*, remarks that this grass preserves its fresh green colour, in droughts when all other vegetables are withered and parched. E.) P. July.

F. Spikets sitting; straw undivided; awns as long as the sylvatica. blossom. POLLICH.

Leers 10. 3—*Wieg.* 1. 11—*Fl. dan.* 164—*Bar.* 83. 2—*Pet.* ii. *gram. ital.* 3—*H. ox.* viii. 6. row 3. 4, on the left hand.

Leaves flat, fringed with long white hairs. Mr. GOUGH. Straw slender, joints woolly. Spike-stalk slender, weak, often drooping. WIGEL. It has the habit of a *Bromus*, the artificial characters of a *Triticum*, (see *Tritic. canin.*) but in its structure it is truly a *Festuca*. ST. The straight hairs on the leaves disappear by cultivation, but the wool-like hairs continue on the stem. Spikes, Calyx and Blossom similar to the *F. pinnata*, but more hairy, and the awns long as or longer than the blossom.

Wood Fescue. *Fest. pinnata* β. HUDS. *Bromus sylvaticus*. Fl. Brit. [Woods and hedges, Worcestershire. ST. Among the Limestone rubbish at the bottom of Scars in Westmoreland. Mr. GOUGH.] P. July.

BRO'MUS. Calyx 2-valved; spikets oblong, cylindrical, 2-rowed: awn beneath the point.

(*secalinus*. B. Panicle expanding; fruit-stalks undivided; spikets egg-shaped, compressed, with ten flowers; flerets distinct, cylindrical. *Fl. Brit.*

E. bot. 1171—*H. ox.* viii. 7. 16—*Weig.* 1. 2—*Scheuch.* 5. 10—*Cam. epit.* 927.

Straw three feet high, leafy, upright, undivided, cylindrical, smooth. *Leaves* strap-shaped; on the upper surface and particularly at the edges, hairy; rough underneath. *Sheath* smoothish. *Sheath-scale* short, gnawed, hairy. *Panicle* scarcely half a foot long. *Calyx* unequal, awnless. *Husks* elliptical, smooth, 3-nerved, skinny at the edge. *Florets* generally smooth, sometimes pubescent, whitish green, shining. *Fl. Brit.* *Awns* shorter than the blossom, not quite straight. *Panicle branches* rough, not hairy. *Spiket* 6 to 10-flowered. *Blossom* very strong and woody, not hairy, not distinctly ribbed.

Dr. SMITH observes that this species may easily be known by its broad, oval, compressed spikes, each consisting of not more than ten or twelve cylindrical, rather remote florets, almost always smooth, and drooping as they ripen from the length of their foot-stalks, which are for the most part quite simple. *Lin. Trans.*

Smooth Rye Bromc-grass. *Bromus polymorphus* var. 2. *secalinus* Bot. Arr. Ed. 4. In corn-fields. Near Edswinford, Caermarthenshire, among the winter corn. Sir J. BANKS.—In a meadow below Cooks Folly, near Bristol. Sir T. FRANKLAND.—In Norfolk not rare. Rev. Mr. BRYANT.—On the sea coast at Ride, in the Isle of Wight. Very troublesome amongst wheat in Norfolk, where it is called *Drank*. Mr. WOODWARD. A. May—July. E.)

(*multiflorus*. B. Panicle spreading; fruit-stalks undivided; spikets egg-spear-shaped, compressed, 15-flowered; florets rather imbricated and somewhat cylindrical. *Fl. Brit.*

E. bot. 1884—*Leers* 11. 2—*Scheuch.* 5. 9.

Straw smooth. *Lower leaves* naked underneath, above somewhat hairy at the edges. *Upper leaves* underneath pubescent with a short woolliness, hairy above; all rough at the edges, and with smooth sheaths. *Sheath-scale* very short, torn, scarcely hairy. *Panicle* as in the former species. *Spikets* an inch long, egg-spear-shaped, flattened. *Florets* 12 to 16, tiled, becoming distant. *Husks* in general downy; rarely smooth. *Fl. Brit.*

This and the preceding species have been confounded by Scopoli, Hudson, and other authors. Scheuchzer and Weigel have, however, distinguished them. The *B. multiflorus* has

more numerous florets, more closely set, and more frequently downy, though not invariably so. Dr. SMITH, in *Linn. Trans.* After taking some pains to examine the evidence for the separation of this plant from the *B. secalinus*, we cannot fully admit the distinctions to be sufficiently permanent to constitute a new species; but for the present, shall follow the arrangement laid down by the superior judgment and opportunities of Dr. Smith. We since discover a similar sentiment in the Botanical Report of the Monthly Magazine, vol. 25.

Downy Rye Brome-grass. B. multiflorus. Fl. Cantab.—Between Edinburgh and New Haven.—Near Norwich. *Fl. Brit.* —Paradise, near Cambridge, and Audrey Causeway. RELHAN. A. July. E.)

(B. Panicle upright, compact; fruit-stalks branched, spikets egg-shaped; florets tiled, depressed, striated, pubescent. *Fl. Brit.* mollis.

E. bot. 1078—*Schreb* 6. 1. 2—*Leers* 11. 1—*Scheuch.* 5. 12—*H. or.* viii. 7. 18—*Weig.* 1. 4—*Curt.* fasc. 1, t. 8.

Straw upright, two feet high, undivided, cylindrical, scored, often smooth, afterwards woolly. *Joints* swollen, sometimes hairy. *Leaves* (and *sheath* likewise,) scored, woolly with soft hairs, scarcely rough at the edge. *Sheath-scale* rather sharp-pointed, torn. *Panicle* two or three inches long, expanding with age, doubly compound. *Spikets* rather upright, sharp-pointed, a little compressed. *Florets* five to ten. *Calyx* of two husks, unequal, elliptical, notched at the end, skinny at the edges, keeled, hairy, with seven or nine strongly marked, green scores. *Florets* like the calyx, concave, with rough awns the length of the valves; *inner* husks very thin, and much narrower, not striated, thicker at the edges, green, fringed. *Seed* oval, flattened. *Fl. Brit.*

Nothing can be more distinct than this common *Bromus* from the two already mentioned. Its compound dense panicle, and its strongly ribbed, depressed, closely imbricated glumes, at once distinguish it. Few plants vary more as to luxuriance. Dr. SMITH in *Linn. Trans.* E.)

Bromus polymorphus. var. 1. mollis. Bot. Arr. Ed. 4. where the author observes, we have two sorts of this soft and hairy *Bromus*, in the one the panicle branches are downy, supporting one or two, but rarely three spikets, the spikets have each ten or twelve florets; the calyx larger valve has a short awn, and both the calyx and blossom are hairy and strongly ribbed.

In the other, the panicle branches are rough, not downy, supporting but one, rarely two spikets, the spikets have each

six or eight florets, the calyx larger valve is scarcely awned, the calyx is ribbed and hairy, but the blossom smooth. This is the kind expressed by most of the figures.

The former is mostly found growing in cornfields, though sometimes in mowing grass; the latter in meadows, pastures, hedge banks, and even on walls.

*Soft Brome-grass. Lob-grass. Oat-grass. B. May—June.**

(racemo'sus. B. Panicle rather upright, spreading; fruit-stalks undivided; spikets egg-shaped, 6-flowered; florets tiled, depressed, striated, smooth. *Fl. Brit.*

E. bot. 1079—H. ox. viii. 7. 19.

More slender than the *B. mollis*. *Straw* smoothish. *Leaves* on both sides hairy, but little rough at the edges. *Sheaths* rough with hairs for the most part bent outwards. *Panicle* thin, not compact, simple. *Fruit-stalks* half whirled, rough, elongated, scarcely ever 2-flowered. *Spikets* like those of the *B. mollis*, but very smooth, scarcely 7-flowered, shining, varied with white and green, nerves but little prominent. *Awns* rough, the length of the valves. *Fl. Brit. Calyx* ribbed, awnless. *Awn* of the blossom not quite straight.

Smooth Brome-grass. Bromus polymorphus. var. 3 and 4. Bot. Arr. Ed. 4. In Meadows and pastures. A. June. E.)

squarro'sus. B. Panicle drooping; spikets egg-shaped; awns wide apart.
• LINN. Panicle unbranched. HUDS.

E. bot. 1885—Barr. 24. 1—Scheuch. 5. 11—Mont. 32.

Panicle nodding. *Spikets* smooth, egg-shaped, each on a little pedicle, thread-shaped, but thicker towards the top. *Awns* wide apart. LINN.

Open-awned Brome-grass. Corn Brome-grass. Cornfields near Glastonbury, Somersetshire, and Marshfield, or Maresfield, Sussex. HUDSON. A. July.

This is inserted on the authority of Mr. HUDSON, but I have never seen a native specimen. (Dr. Smith is apprehensive that Mr. Hudson mistook the *Bromus secalinus* for this plant. E.)

* Its merit or demerit in an agricultural view, does not seem sufficiently ascertained. Mr. SWAYNE says it is disliked by farmers as being in cornfields a troublesome weed, and in pastures and mowing grounds of little value, since it has generally shed its seed by the time of mowing, and produces very few root-leaves.

B. Panicle upright, ending abruptly; spikets oblong, erectus, hairy, awned, about five florets in each; straws straight; leaves hard.

E. bot. 471—*Vaill.* 18. 2—*Scheuch.* 5. 13.

Awns a continuation of the keel of the blossom, thus forming the connecting link between this genus and *Festuca*. **WOODWARD.** *Panicle* branches each supporting a single spiket. *Spikets* slender, 5 to 7-flowered. *Calyx* somewhat hairy, ribbed, keeled, slender pointed, but not awned. *Blossom* with a large knot at the base, hairy, outer valve ribbed and keeled. *Awn* shorter than the blossom. *Anthers* deep saffron colour.

Upright Perennial Brome-grass. Cornfields. (Holkham, Norfolk. Mr. CROWE.—Near Darent Wood, Dartford. Rev. Dr. GOODENOUGH. *Fl. Brit. E.*) [Ditchley Park. Mr. WOODWARD.—In pasture ground near Short Wood, Pucklechurch. Mr. SWAYNE.]

Var. 2. *smooth.* Spikets smooth, from 5 to 8-flowered; awns straight, short; lower part of the panicle drooping.

Bromus arvensis. HUDS. not of LINN. In Ditchley Park, intermixed with the former; also at Earsham, near Bungay. Mr. WOODWARD. P. July.*

B. Panicle diffuse, upright but open; spikets strap-shaped, the middlemost in pairs; pedicles thickest at the top; (florets spear-shaped, scored, with only two stamens. E.) dian'drus.

Curt.—E. bot. 1006—*H. ox.* viii. 7. 13.—*Barr.* 76. 1.

Straws two feet high, sleek, joints swoln. *Leaves* broadish, soft. *Panicle* loose, with no great number of spikets. *Spikets* straight, nearly upright, in threes, each of which generally on a fruit-stalk, and sometimes a fourth, with mostly two on a fruit-stalk. *Awns* long, upright. LINN. *Panicle* not branched. *Calyx* keeled, hairy, of ten florets. *Blossom* ribbed, hairy. *Awns* shorter than the blossom. *Bromus diandrus.* CURT. (This species is readily distinguished by the diandrous florets, which were particularly observed by the author in Portugal. E.)

Wall Brome-grass. *Bromus muralis.* HUDS. *Bromus madri-tensis.* Bot. Arr. Ed. 4. On old walls about London and Oxford. HUDSON.—[Severn Stoke, Worcestershire. ST.]—(Com-

* A coarse grass, disliked by cattle, as are all the *Bromes*. Properly a *Fescue*, but has the habit of a *Brome*. Mr. SWAYNE.

mon on sandy grounds in Jersey. SHERARD.—At the foot of St. Vincent's Rock, Bristol, on the farther part near the meadows. Sir J. BANKS.—Near Battersea. CURTIS. E.)

A. May—June.*

as'per.

B. Panicle drooping, rough; spikets hairy, awned; leaves rough. LINN. Spikets slender, 10-flowered; sheaths of the leaves hairy. CURT.

Curt. 105—E. bot. 1172—H. ex. viii. 7. 27.

Panicle branches bearing from one to three spikets, very rough, thickest upwards, pointing one way. *Spikets* from 6 to 10-flowered, long, slender, nearly cylindrical. *Calyx* larger valve ribbed; smaller keeled. *Blossom* larger valve, ribbed towards the end. *Awn* one third the length of the blossom. (Dr. Smith remarks that if the dorsal awn and fringed inner husk be duly attended to, this can never be confounded with *Festuca gigantea*. E.)

Hairy-wood Brome-grass. *Bromus ramosus*. Huds. Ed. i. *B. nemoralis*. Ed. ii. *B. hirsutus*. Curt. *B. sylvaticus*. Vogler. *B. altissimus*. Wiggers. *Br. montanus*. Pollich. Woods and hedges, frequent.

A. (or B. *Fl. Brit.*) June—Aug.

sterilis.

B. Panicle spreading; spikets oblong; florets 2-rowed; calyx taper-pointed. LINN. Awns very long.

Curt.—E. bot. 1030—H. ex. viii. 7, 11—Leers 11. 4—Mont. 1—Dod. 540. 2—Lob. obs. 20. 1—Ger. em. 76. 1—Park. 1148. 1—Ger. 69. 1—C. B. th. 146—Math. 1205—J. B. ii. 439. 2—Scheuch. 5. 14.

(*Panicle* drooping. *Fl. Brit.* E.) *Leaves* ribbed, hairy, not very harsh. *Panicle branches* from four to six issuing from the same point; very long, rarely subdivided. *Spikets* flat, broader upwards. *Calyx* 6 or 7-flowered, smaller valve keeled, larger ribbed, tapering to a point but not awned. *Blossom* larger valve ribbed, very rough, not hairy. *Awns* much longer than the blossom.—(Mr. Curtis observes that in this species and *B. diandrus* the styles grow laterally out of the germen. *Stamens* 3, by which it is distinguished with certainty from *B. diandrus*. E. bot. E.)

Barren Brome-grass Woods and hedge sides, frequent.

A. June—July.

arven'sis.

B. Panicle drooping: spikets egg-oblong.

* (This grass, sown in autumn, promises to yield a valuable spring crop. E.)

Var. 1. *Awned*.

E. bot. 1984—*Leers*. 11. 3—*Scheuch*. 5. 15.

I have a specimen of this with *awns* of some length from an excellent botanist, but where gathered I do not know.
WOODWARD.

Var. 2. *Awnless*.

E. bot. 920—*Fl. dan.* 293.

Straw five inches high. *Root-leaves* awl-shaped, smooth, channelled, stiff. *Panicle* close, consisting of eight or ten *spikets*. *Spikets* almost sitting, and growing on one side of the stalk; smooth, awnless, consisting of five *florets*. The above differences possibly occasioned by the sea water, and the poverty of the soil. LIGHTFOOT.

(Near Southampton. SHERARD.—At Earsham, Norfolk. Mr. WOODWARD. E.)—Shores of the Isle of Oransay. LIGHTFOOT. A. July.

The *Fl. Lapp.* and *Suec.* certainly contains under the head of *Br. arvensis* the synonyms of different plants, and the subject has not yet been sufficiently examined. Mr. Lightfoot by his reference to *Fl. Dan.* has demonstrated the existence of that var. with us, but the plant of Scheuchzer, referred to in the *Sp. pl.* is not yet fully established as a native. The plant called *B. arvensis* by Leers differs somewhat from that of Scheuchzer; but hardly enough to cause it to be considered as distinct. (Ehrhart has distinguished the above varieties as two species; the first Dr. Smith allows to be the real *B. arvensis*, the latter one he assents to call *B. pratensis* of the German Botanist. E.)

B. Panicle drooping; spikets 4-flowered, shorter than the gigante'us. awns.

Curt. 344—*E. bot.* 1820—*Schreb.* 11—*Leers* 10. 1—*Fl. dan.* 440—*Vaill.* 18. 3—*Scheuch* 5. 17 and 19—*Weig* 1. 5.

Four or five feet high. *Leaves* half an inch broad. *Sheath-scale* purple, cloven, embracing the straw. This circumstance alone, as Mr. Curtis has observed, is sufficient to distinguish it. *Panicle branches* in pairs, subdivided. *Calyx* valves keeled, slender tapering to a point, from 3 to 6-flowered. *Blossom* not ribbed, not hairy. *Awns* full twice the length of the blossom.

(The *inner* husk not being comb-like and fringed; the *awn* terminating, (as Villars observes;) and the *root* moreover being perennial, have induced Dr. Smith to remove this species from the *Bromes* to the genus *Festuca*. E.)

Tall Brome-grass. Festuca gigantea. Fl. Brit. Woods and moist hedges. P. July—Aug.

pinna'tus. B. Straw undivided; spikets alternate, nearly sitting, cylindrical, somewhat awned. LINN.—*Festuca pin-nata.*

E. bot. 730.

Spikets with their flat sides turned towards the straw. *Awns* terminating. *Leaves* flat. LINN.

Not uncommon in Yorkshire, Oxfordshire, and Kent. Dr. SMITH.

STIPA. *Calyx* 2-valved, 1-flowered; *blossom* outer valve ending in an awn; *awn* jointed at the base.

penna'ta. S. Awns woolly or feathery.

E. bot. 1356—*H. ox.* viii. 7. row 3. 9—*Barr.* 46—*C. B. th.* 71—*Munt.* 617—*Clus.* ii. 221. 3—*Ger. em.* 42. 6—*J. B. ii.* 512. 2—*Mont.* 68—*Scheuch.* 3. 13. *B. (Munting* 173, good. Mr. Woodward.)

Awns from six to twelve inches long, or more; set with very fine, white, soft, pellucid, diverging hairs. This very beautiful and remarkable feature at once distinguishes it from all our other grasses.

(The awns remain permanently attached till the seeds become ripe, when invested with their elegant appendages, they are thereby scattered over plains and rocks for the fresh propagation of their species. *Fl. Brit. E.*)

Downy Feather-grass. Mountains. [Near Kendal, Westmoreland. Mr. ALDERSON.] P. July—Aug.

In Ray's Syn. p. 393, this elegant grass is said to have been found by Dr. Richardson and Thomas Lawson, on the limestone rocks hanging over a little valley called Longsleedale, about six miles north of Kendal in Westmoreland. Hudson gives no other place of growth, but in the second edition of the Bot. Arr. Mr. Alderson is said to have found it near Kendal; but this I am now informed is a mistake, and Mr. Gough who lives at Kendal, tells me he has never found it, nor has heard of any person that has, except those just mentioned; there is therefore reason to fear that it may be exterminated. I have only seen garden specimens.—(Mr. WOODWARD also states that the habitat of Mr. Alderson was a mistake, he not having

found it there, but only heard that it grew on that spot.— Unless therefore some new discovery be made, one of the most elegant of the grasses must be expunged from the list of British Plants. E.) P. July—Aug.

AVE'NA. *Calyx* 2-valved, many-flowered: *awn* from the back of the blossom, twisted.

A. Panicked; calyx 2-flowered; male floret awned; hermaphrodite floret sometimes awnless. *ela'tior*.

Gram. pasc.—Schreb. 1—Curt. 191—*E. bot.* 813—*H. ox.* viii. 7. 38—*Park.* 1176. 1—*C. B. th.* 18—*J. B.* ii. 456—*Ger. em.* 23—*Fl. dan.* 165—*Leers* 4. 4—*Scheuch.* 4. 27 and 28.

Root bulbous, sometimes a double pear-shaped bulb, one above the other. *Straw* about 5 feet high; knots woolly. *Leaves* not hairy. *Blossom* hairy at the base. The structure of the blossom agrees so well with that of *Holcus* that some have thought it best placed under that genus, and Gmelin has called it *Holcus avenaceus*, under which name it will be found in this work; but its habit authorizes us to retain it as an *Avena*, especially when we subjoin the following remarks by which it may be distinguished from that variety of *Holcus mollis* which contains 2 or 3 florets in each calyx, one of them male. This species of *Holcus* has none of those large bulb-like knots at the root and the base of the straw which are so remarkable in the *Avena elatior*. The panicle of the latter is 8 or 10 inches long, in the former hardly half that length. In the *Avena* the leaves and sheaths are free from hairs, the knots on the joints only are woolly, but in the *Holcus* almost the whole plant is set with soft hairs. (Dr. Smith observes that the male floret frequently contains an imperfect and barren pistil. *Fl. Brit. E.*)

Tall Oat-grass or *Oat*. *Holcus avenaceus*. Gmel. syst. veg.—*E. bot.*—*Fl. Brit.* Wet and damp places. Meadows, pastures, and hollow ways. P. June—Aug.*

A. Panicked; calyx 3-flowered, shorter than the receptacle; petals awned upon the back; the third floret awnless. *nu'da*.

Dicks. h. s.—*H. ox.* viii. 7. 4—*Ger.* 68. 2—*C. B.* 471—*J. B.* ii. 433, cap. xxi.—*Dod.* 511. 2—*Ger. em.* 75. 2—*Park.* 1134. 2.

* Cows, sheep, and goats eat it.—The roots are sometimes very troublesome to farmers in arable lands. St. producing a kind of squitch. It affords a large crop, but is unpalatable to cattle, especially to horses, as are the *Avena* in general. Mr. SWAYNE.

The seeds when ripe fall out of the husks. LINN. *Spikets* with 2 or 3 florets. *Awn* neither twisted nor jointed. HALL. *Panicle* 5 to 8 inches long, lower branches subdivided. *Calyx* and *Blossom* ribbed. *Awn* about the length of the blossom.

(Dr. Smith thinks this Oat has no pretension to be reckoned an indigenous plant. *Fl. Brit. E.*)

Naked Oat. Pilcorn. Pills. Staffordshire. PLOT.—Cultivated in Cornwall. RAY. A. July.*

fa'tua.

A. Panicked; calyx 3-flowered, all the florets awned, and hairy at the base.

E. bot. 2221—*Leers* 9. 4—*Mill. ill.*—*H. ox.* viii. 7. 5—*Barr.* 75. 2.

Blossom with a few long hairs near the end, as well as shorter hairs at the base. *Awn* twice the length of the blossom, knee-bent at a joint which stands even with the top of the calyx.

(Mr. Brunton has observed two varieties of this plant, one hairy at the base of the glumes only; the other entirely covered with hairs. *Bot. Guide. E.*)

Bearded wild Oats. Hover. Corn fields. (Very common in Denbighshire and Caernarvonshire. Mr. GRIFFITH; likewise in Yorkshire and other counties; every where about Copgrove in dry lands. Mr. DALTON. E.) A. July—Aug.†

pubes'cens. A. Panicle spike-like; calyx 3-flowered: blossoms bearded at the base; leaves flat, downy.

E. bot. 1640—*Leers* 9. 2—*Ray* 21. 2—*Scheuch.* 4. 20—*Mont.* 65.

Very closely allied to *A. pratensis*, but the leaves not rolled in. LINN. *Florets* sometimes only 2, at others 4, and, in the more luxuriant plants, sometimes 5. SCHEUCH. *Panicle branches* shorter than the spikets, except the lower ones which are longer and, though rarely, branched. *Calyx* frequently 2-flowered. *Florets* purplish and silvery white. *Blossom* half the length of the awn, with long hairs at the base, but none at the end.

Rough Oat. Downy Oat-grass. Dry chalky soils. [Marham, Norfolk. Mr. WOODWARD.—Wick Cliffs. Mr. SWAYNE.—Marlborough Downs.]—(Common about Garn, Denbighshire. Mr. GRIFFITH.—Toxteth Park, near Liverpool. Dr. BOSTOCK.—Llantihangel; Dinsilwy, Anglesea. Rev. H. DAVIES. *Bot. Guide. E.*) P. June.‡

* This is nearly as good as the cultivated oat; it will make gruel or oat cake, and feed cattle as well as that. Ray says it sells in Cornwall at the price of wheat.

† Horses, sheep, and goats eat it.—The awns are used for Hygrometers. Sometimes so prevalent amongst Barley as almost entirely to choke it. It may be extirpated by repeated fallowing, or laying down the land in grass.

‡ Disagreeable to cattle. Mr. SWAYNE.

A. Panicle loose; calyx 3-flowered, short; all the florets flaves'cens. awned.

Gram. pasc.—Curt. 212—*E. bot.* 952—Schreb. 9—*Leers* 10. 5—*Scheuch.* 4. 18—*H. ox.* viii. 7. 42—*Mont.* 79.

(*Leaves* more or less pubescent. *Fl. Brit. E.*) About half a yard high. *Leaves* yellow green. *Panicle* much branched, yellow green, changing to shining golden yellow: wide spread whilst in flower, upright and compact when in seed. *Spikets* short, 2 or 3-flowered, one floret often imperfect. *Awn* nearly twice as long as the blossom. It may be distinguished at a considerable distance by the colour of the foliage as well as that of the panicle.

Yellow Oat. Meadows, pastures, hills, particularly in a calcareous soil. P. July.*

A. Panicle spike-like; calyx 5-flowered; (receptacle hairy. *praten'sis.* E.)

Fl. dan. 1083—*E. bot.* 1204—*Leers* 9. 1—*Ray* 21. 1—*Vaill.* 18. 1—*H. ox.* viii. 7. 21—*Mont.* 66.

Straw quite smooth. *Leaves* roughish, doubled together. *Panicle* about 4 inches long, branches upright, undivided, except one or two at the bottom. *Spikets* strap-shaped, upper ones nearly sitting. *Awns* longer than the blossom.

Meadow Oat. *Narrow-leaved Oat-grass.* Heaths and high chalkey lands. [Norfolk, very frequent. Mr. WOODWARD.—King's Park, Edinburgh. Dr. SMITH.]—(Upper part of Cefn Rocks, above the cave, in the parish of St. Asaph; and Llan-didno Rocks, Caenarvonshire. Mr. GRIFFITH. E.) P. July.

A. Panicle oblong, compact, pointing one way; florets in strigo'sa, pairs, with 2 awns at the end, and a jointed awn on the back. SCHREBER.

E. bot. 1266.

Straw and leaves naked. RETZ. *Calyx* as long as the spiket. *Florets* smooth, the terminating awns short, fine, red, but white at the end. *Awn* from the back, twice the length of the blossom. Not described by any writer. SCHREB. spicileg. (Resembles the common cultivated Oat, but the panicle is strikingly different, being somewhat crowded, its branches leaning all to one side. *E. bot.* E.)

* Cattle are not fond of it, but Mr. SWAYNE says it is the best of the genus for the use of the farmer.

Bristle-pointed Oat. Amongst oats. Specimen in my Herbarium found in the North of England. (We learn from E. bot. that it has been more recently found in various places, and is a common weed in corn-fields in Scotland, Wales, Yorkshire, and on the downs of Cornwall. E.) A. July.

LAGURUS. *Cal.* 2-valved, awn woolly: *bloss.* outer petal with 2 awns at the end, and a twisted awn at the back.

ova'tus.

L. Spike egg-shaped, awned.

Dicks. h. s.—E. bot. 1334—*Schreb.* 12. 3—*Barr. ic.* 116—*Scheuch.* 2. 4. *B. C.—C. B. th.* 56. 2.

(*Leaves* spear-shaped, the upper ones egg-shaped. *Floret* solitary, sitting. *Fl. Brit. E.*) From 12 to 18 inches high. *Straw* smooth. *Leaves* and *sheaths* soft and woolly. *Spike* one inch and quarter long, one inch broad near the base.

Hare's-tail Grass. This is a native of the more southern parts of Europe, but is inserted here on the authority of Mr. Dickson's Herbarium, where it is given as growing in the island of Guernsey. A. June.

ARUNDO. *Cal.* 2-valved: *bloss.* awnless, surrounded with down at the base.

phragmites. A. Calyx 5-flowered; panicle spreading.

E. bot. 401—*H. ox.* viii. 8. 1—*Dod.* 602—*Lob. obs.* 28. 1—*Ger. em.* 36. 1—*Park.* 1209. 1—*J. B.* ii. 485. 1—*C. B. th.* 269—*Trag.* 674. 2—*Leers* 7. 1—*Mont. Arundo B. E.—Scheuch.* 3. 14. *D.*

Florets 4 or 5, smooth, but surrounded at the base with down about the length of the florets, which rises from the spike-stalk, and not from the base of the blossom. (Scheuch.) as erroneously figured by Leers, (St.) so that in fact the downy fibres are on the outside of the calyx.

(Mr. Relhan observes that the leaves are sometimes variegated. E.)

Common Reed. Rivers, lakes, ditches; very common.

P. July.*

* The panicles are used by the country people in Sweden to dye woollen cloth green. The reeds are much more durable than straw for thatching. Screens to keep off the cold winds in gardens, are made of them; and they are laid across the frame of wood-work, as the foundation for plaster floors.

(A. Calyx single-flowered, longer than the corolla, taper-pointed; panicle erect, close; flowers crowded, leaning one way, with a dorsal awn nearly as long as the down and calyx. Epige'jos.

E. bot. 403.

Stem nearly as tall but rather more slender than *A. Phragmites*, much stouter than *A. Calamagrostis*, often branched at the bottom, leafy, smooth. *Leaves* strap-spear-shaped, pointed, chiefly glaucous at the back, roughish, twice or thrice as broad as in *A. Calamagrostis*. *Sheaths* close, striated, smooth, except the uppermost, which is roughish, *Stipula* lanceolate, acute, torn. *Panicle* erect, much branched, slightly spreading every way when in bloom. *Calyx valves* purplish, nearly equal, spear-shaped, narrow, long-pointed, rough. *Petals* half as long as the calyx, white, unequal, cloven at the top, the larger having 3 rough ribs, and bearing from about the middle a rough awn, whose extremity reaches nearly to the points of the calyx. *Down* almost as long as the calyx. A flower of this species is more particularly represented in *E. bot. t.* 2160. *f.* 3. Dr. SMITH in *E. bot.*

In restoring this and the other species of *Arundo* to their proper situation we have adopted the very full descriptions given in the English Botany, in order to elucidate the characters and synonyms which have hitherto lain in much confusion, though we fear some obscurity or contradiction may still remain in the references.

Wood Reed. Arundo Epigejos. LINN. *Fl. Brit.*—*E. bot.* *A. Calamagrostis.* HUDS. LIGHTF. *Calamagrostis lanceolata.* With. *Ed.* 4. Moist woods and shady ditches. [On the side of a ditch on the borders of Aqualate Meer, Shropshire. Dr. STOKES.—Earsham Wood, Norfolk. Mr. WOODWARD.—Hardwick Wood; Wood Ditton; Park Wood. Mr. RELHAN.—Castle Eden dean. Mr. ROBSON.] P. July.

(A. Calyx 1-flowered, longer than the blossom; panicle erect, spreading; flowers scattered, upright; leaves strap-shaped. *Fl. Brit.* Calama-gros'tis.

E. bot. 2159—*Fl. dan.* 280 ?—*H. ox.* viii. 3. 2—*Scheuch. pr.* 5—*Ger. em.* 9. 1—*Scheuch.* 3. 3. *C. D.*

Panicle stiff and straight. *Blossoms* small, hairy at the base. *Leaves* flat.—Four or five feet high, unbranched. *Leaves* stiff, harsh. *Panicle* very large. *Calyx* rough and strong. *Blossom* thin and skin-like. *Awn* from the back of the blossom, very slender, with difficulty found on account of the long hairs from the base of the blossom besetting it.

Dr. Smith appears to entertain no doubt of the *Arundo Calamagrostis* of Fl. Brit. being the same as our plant above described, (*Calamagrostis Epigejos* of With. Ed. 4,) we have accordingly endeavoured to conform to his idea and arrangement, though we strongly suspect these plants to be still involved in much confusion.

Small Reed. Calamagrostis Epigejos. With. Ed. 4. Moist woods and hedges. At Ranaugh, Norfolk. Mr. HUMPHREY.—Earsham Wood. Mr. WOODWARD.—East Fen, near Revesby Abbey, Lincolnshire. Sir JOSEPH BANKS.—Near Prickwillow, Isle of Ely. Rev. G. GOODENOUGH. *Fl. Brit.*—Ripon Wood, Huntingdonshire. Mr. WOODWARD. P. June—July. E.)

(arena'ria.

A. Calyx single-flowered, longer than the blossom; panicle spike-like; flowers upright, awnless; leaves rolled inwards, prickly at the end. *Fl. Brit.*

E. bot. 520—*Fl. dan.* 917—*H. ox.* viii. 4. row 3. 16—*Clus.* II. 221. 1—*Lob. obs.* 45. 3—*Park.* 1198. 3—*J. B.* II. 512. 1—*Ger.* 38. 3—*C. B.* 67—*Ger. em.* 42. 3—*Scheuch.* 3. 8. A. B. C.—*Mont.* 92.

Blossom hairy at the base. Leaves edges rolled inwards, pointed and thorn-like at the end; whilst growing frequently flat, with green and white streaks. Spike 4 to 6 inches long, three quarters of an inch broad. Calyx twice as long as the blossom.

Sea Mat-weed. Marram. Sea Reed. Arundo arenaria. Linn. *Fl. Brit.* *Calamagrostis arenaria.* With. Ed. 4. Sea shore, not uncommon. At Ryde, in the Isle of Wight.—North Shore near Liverpool, there planted to bind the sand together. Dr. BOSTOCK. P. June—July.* E.)

LO'LIUM. *Cal.* 1 leaf, fixed, many-flowered; *spikets* alternate.

peren'ne.

L. Spike awnless; spikets compressed, many-flowered, longer than the calyx.

* Grows only on the very driest sand upon the sea shore, and prevents the wind from dispersing the sand over the adjoining fields, which is not unfrequently the case where this plant is wanting. Many a fertile acre has been covered with sand and rendered useless, which might have been prevented by sowing the seeds of this plant upon the shore. The Dutch have profited by the knowledge of this fact. LINN. Queen Elizabeth on this account prohibited the extirpation of it. It is planted, Mr. Woodward informs me, on some of the flat coasts of Norfolk to repel the sea. He observes that as soon as it takes root a sand hill gathers round it, and thinks that some of our sandy cliffs may have thus been formed. Newborough, in Anglesea, subsists chiefly by manufacturing it into mats and ropes.

Gram. pasc.—Dicks. h. s.—Schreb. 37—Leers. 12. 1—H. ox. viii.
2. 2—Fl. dan. 747—Dod. 540. 1—Lob. obs. 21. 1—Ger. em.
78. 2—Park. 1145. 2, and 1146. 7—C. B. 128—Math.
1023—Scheuch. 1. 7, A. B. C. D.—Mont. 19.

This plant is subject to considerable variation, as it grows in rich or poor soil it is from six to twenty inches high or more, and the parts of fructification vary in proportion. The spike is generally flat, but sometimes nearly cylindrical. *Spike* sometimes shews a disposition to become branched, particularly towards the bottom. *Calyx* from 3 to 6 or 7-flowered; the terminating calyx 2-leaved.

Var. 2. *tenue*. Spike awnless, cylindrical; spikets 3-flowered.
Lolium tenue. LINN.—(*Lolium perenne* β. Fl. Brit. E.)

Var. 3. *Broad spiked*. Spike compound.

Scheuch. pr. 2. Gramen loliaceum, &c.

Lolium perenne δ. Fl. Brit. Spike as broad as it is long, composed of many smaller spikes placed in a double row and closely crowded together. *Scheuch.* This var. is inserted on the authority of Dr. Sibthorpe in Fl. ox. but he has given only the general habitat of pastures. Way-sides.

Ray-grass. Rye-grass. Crap. Red Darnel. Road side,
dry pastures. P. June.*

L. Spikets awned, compressed, many-flowered; not longer than the calyx, straw rough.

Schreb. 36—Fl. dan. 160—E. bot. 1124—Leers 12. 2—H. ox viii.
2, row 2. 1. n. 2—Dod. 538—Lob. obs. 21. 2—Ger. em. 78.
1—Park. 1145. 1—Ger. 71—C. B. th. 121—Mus. rust. vi.
1. 1—Scheuch. 1. 7. E. F—Mont. 18.

* It makes an excellent hay upon dry chalky or sandy soils. It is cultivated with advantage along with clover, and springs earlier than the other grasses; thereby supplying food for cattle, at a season when it is most difficult to be obtained. Cows, horses and sheep eat it. Goats are not fond of it. It was hinted in the *Gramina pascua* by Mr. Swayne, (a) that there was reason to think that the common cultivated *Ray-grass* had by frequent sowing degenerated from its natural qualities, that it was inferior in many respects to the *Ray-grass* growing naturally in our best meadows and pastures. Mr. Pacey, an enlightened agriculturist in the upper part of this county, has lately raised a variety of *Ray-grass* from seed selected from old pastures, and has now multiplied it to that extent as to sell annually a considerable quantity at the price of 10s. 6d. per bushel. It has been proved by the most competent judges, to be infinitely superior to the cultivated *Ray-grass* and he has a demand for all he raises. What can have been the cause of the degeneracy of the cultivated sort? Has the *L. temulentum* had any share in this deterioration? Mr. SWAYNE.

(a) A publication perfectly well calculated to instruct farmers and gentlemen, who do not find leisure to enter minutely into botanical enquiries, how to distinguish the pasture grasses.

Inner petal awnless, concave, a little fringed. *Fl. Brit.* *Straw* rough when stroked upwards. *Leaves* rough when stroked downwards. *Spike* four to six inches long, rough. *Awns* longer than the blossom. Terminating spiket with a 2-leaved calyx, and the lowermost spikets have a minute inner leaf to the calyx.

Bearded Darnel. Ploughed lands, mostly among barley and flax; (a very troublesome weed among wheat, in Norfolk and Suffolk. Mr. WOODWARD.—Also at Rhil, in the parish of Rhyddlan, Flintshire. Mr. GRIFFITH. E.) A. July—Aug.*

arven'se.

L. Spikets awnless, rather shorter than the calyx; calyx 2-valved; straw smooth.

E. bot. 1125—*H. ox.* viii. 2. row 2. 1. n. 1—*Matth.* 411—*J. B.* ii. 437.

Whole plant smooth, except the leaves, which are rough when stroked downwards. *Leaves* broad. *Spike* six to twelve inches or more in length. *Spiket* 6-flowered. *Calyx* outer valve strong, hard, longer than the spiket; inner valve much smaller and finer in its texture. *Blossom* awnless, larger valve with one or two long and soft hairs at the end.—(Dr. SMITH describes this plant as having a *calyx* generally with only one valve. *Spikets* as long as the cup, or a little longer. *Blossom*, though at first view awnless, on further inspection sometimes shewing a very short awn. We learn from *E. bot.* that Mr. FOSTER in some spikets has observed two, or even three small inner valves to its calyx. E.)

White Darnel. (*Annual Beardless Darnel.* In fields to the north of Forfar, Scotland. Mr. MACKAY. *Fl. Brit.*—Walthamstow. Mr. E. FORSTER; and at Kennington, near London. Mr. GROULT. in *E. bot.*—Also in Cambridgeshire, Norfolk, and near Beaumaris, Anglesea; very common amongst wheat in Rhil, in the parish of Rhyddlan, Flintshire. Mr. GRIFFITH. E.) A. July;†

ROTBOL'LIA. *Cal.* of 1 or 2 valves, egg-spear-shaped, flat: *florets* alternate, on a zig-zag spike-stalk: *blossom* 2-valved, awnless.

* The seeds, mixed with bread-corn, produce but little effect, unless the bread be eaten hot; but if malted with barley, the ale soon occasions drunkenness. LINN. Made into bread, with a small portion of wheat, and eaten repeatedly, produced vomiting, purging, violent colics, and death. Vol. 67. M. Review, p. 559.—Sheep are not fond of it.

† It is very injurious to a wheat crop, but may readily be avoided, as it is sown along with the seed. Mr. PITT.

R. Spike cylindrical, awl-shaped; calyx husk awl-shaped, incurva'ta. contiguous, divided into two. LINN. the SON. *Suppl.* 114.

Fl. dan. 938—*H. ox.* viii. 2. 8—*Park.* 1146—*Barr.* 5 and 6—*Scheuch.* 2. 1—*Pluk.* 191. 6.

Spike without awns, smooth, thread-shaped, crooked, but little thicker than the straw. *Calyx* of two valves; both placed outwardly. *Blossom* valves placed contrariwise to those of the calyx, LINN. All the florets which I have ever examined are hermaphrodite. ST. *Stems* branched. *Spike* cylindrical, not thicker than the stem, whence it is not readily observable, unless when in flower. RAY. Mr. WOODWARD. *Leaves* short, firm. *Flowering stems* ascending, below whitish, cylindrical and smooth. *Spike* green. *Florets*, one to each joint, alternate. *Calyx* valves strap-spear-shaped, ending in a stiff point, the point lying in a notch of the joint above, stiff, green, furrowed without, white and shining within, one expanding when the pollen is ripe. *Blossom* nearly as long as the calyx. WOODWARD.

Sea Hard-grass. Ægilops incurvata. LINN. Sea coast. Salt Marsh, below King's Weston, near Bristol. ST. and near Yarmouth. Mr. CROWE.—Near Seaton, county of Durham. Mr. ROBSON.—(Rhil Marsh, Flintshire. Mr. GRIFFITH.—At Sheringham, Norfolk, at Exmouth, Devonshire. Rev. Dr. GOODENOUGH.—North Shore, by Bank Hall, near Liverpool. Dr. BOSTOCK and Mr. SHEPHERD.—At the head of Lowestoft Broad, Suffolk. Mr. WOODWARD. E.)

A. *Fl. Brit.* P. July—Aug.

E'LYMUS. *Cal.* lateral, 2-valved, several together, many-flowered.

E. Spike upright, compact; calyx woolly; longer than the floret arena'rius.

Schreb. 40—*E. bot.* 1672—*Gmel.* i. 25—*Clus.* ii. 221. 2—*C. B.* 68. 2—*Ger.* 23—*C. B. th.* 14—*Park.* 1277. 1—*J. B.* ii. 478. 2—*H. ox.* viii. 2. 11.

(*Stipula* very short, by which the plant may readily be distinguished from *Arundo arenaria*. E. bot. E.) *Spike* upright, long, woolly. *Little spikes* two together, straight, containing two florets, awnless. *Leaves* like those of an *Arundo*, blueish green, or whitish; rolled inwards and sharp-pointed. LINN.

Upright Sea Lime-grass. Sea coast, in loose sand.—(Isle of Bute, and in Devonshire. HUDS.—At Wells and Happis-

burgh, Norfolk. Mr. CROWE.—Scotland. Rev. Dr. WALKER.—Sea coast, four miles East of St. Andrews. Mr. MACKAY.
Fl. Brit. P. July—Aug.*

- caninus*. E. Spike compact, leaning; spikets upright, without an involucre; the lowermost in pairs. See *Triticum caninum*.
- (*geniculatus*). E. Spike bent perpendicularly downwards, loose; calyx bristle-shaped, spreading, longer than the spikets; leaves with a spinous point. Dr. SMITH.

E. bot. 1586.

Root perennial, downy. *Herb* glaucous. *Leaves* hard and rigid, long, narrow, involute, furrowed above, smooth beneath, ending in a sharp spine. *Stem* round, very smooth, 3 or 4 feet high. *Spike* simple, lax, a foot and half to 2 feet in length, bent down at an acute angle about the second or third spiket. *Spikets* 4-flowered. *Florets* very distant, sharp-pointed, downy. *Common receptacle* sometimes naked and elongated at the base. *Fl. Brit.* and *E. bot.*

Pendulous Sea Lime-grass. Found in marshes near Gravesend by Mr. DICKSON; and formerly distinguished from the other species by Mr. CURTIS. *E. bot.* P. July. E.)

- europæus*. E. Spike upright; spikets 2 florets in each, as long as the calyx.

Scheuch. pr. 1. 1—*E. bot.* 1317—*Park.* 1144. 7. (1)—*Mont.* 94.

Florets, together with their awns, longer than the fence. LINN. *Leaves of the fence* equal, somewhat scored towards the end. *Florets* often 2, and both fertile; with the rudiment. In structure it is an *Elymus*, in habit it approaches rather more to the *Hordeum*. It seems the connecting link between these two genera. *Floret* generally single. ST. (*Spikets* 2-flowered, often only one. *Fl. Brit.* E.)

Wood Lyme-grass. *Hordeum sylvaticum*. HUDS. Woods in chalky soil. [Rocks opposite Matlock Baths; Ripton Woods, Huntingdonshire. Near Berkhamstead, Herts. In the North, frequent. Mr. WOODWARD.] P. June.

HORDEUM. *Cal.* lateral, 2-valved, 1-flowered, 3 together.

* It resists the spreading of the loose sand on the sea shore. Is it not capable of being formed into ropes as the *Stipa tenacissima* is in Spain? Cows, horses, and goats eat it; sheep refuse it.

Obs. The curious, but complicated structure of *Hordeum*, has prevented many young botanists from ascertaining the species to their own satisfaction, though there is no great difficulty in the task. We have only 3 species in this island, all of which have

1st. Two male and 1 hermaphrodite floret in each set.

2d. All the awns, whether belonging to the involucre, or to the larger valve of the blossom, barbed.

3d. Smaller and inner valve of the blossom awnless.

4th. Involucre, or fence, 2 leaflets, or awn-like substances to each floret, and a third to the hermaphrodite floret, placed at the base and on the outside of the inner valve of the blossom, and about the length of the valve.

The following circumstances readily discriminate the British species.

H. murinum. Some of the fence-leaves fringed at the base.

H. pratense. Fence-leaves bristle-shaped, neither fringed nor expanded at the base.

H. maritimum. Some of the fence-leaves expanded and spear-shaped at the base.

H. Lateral florets male, awned, smooth on the keel; in- *muri-num*. volucre of the intermediate florets fringed.

Curt. 325—*Fl. dan.* 629—*E. bot.* 1971—*Lob. obs.* 18. 1—*Park.* 1157—*H. ox.* viii. 6. 4. *Gr. secalin*—*Ger.* 66. 2—*C. B.* 134—*Ger. em.* 73, upper figure—*Barr.* 111. 1—*Mont.* 90, the middle floret.

Involucre half the length of the florets. *Florets* 2 barren, 1 fertile, forming a set; the larger valve in all the florets awned. Each male, or barren floret has 2 fence-leaves; one of which is fringed at the base. The fertile, or *hermaphrodite* floret has 2 fence-leaves on the outside the larger awned valve of the blossom, both of which are fringed at the base. This fertile floret has also a third fence-leaf, resembling an awn, placed at the base of the inner valve of the blossom, and not fringed.

Wall Barley. *Mouse Barley.* *Way Bennet.* *Wild Rye.* *Rye-grass.* Walls and road sides, common. A. April—Aug.*

H. Lateral florets male, awnless; involucre bristle-shaped, rough. *Huds.*

* Sheep and horses eat it. It feeds the Brown Moth, (*Phalana granella*),—and the Barley Fly. (*Musca frit.*)

Gram. pasc.-E. bot. 409—*Vaill.* 17. 6—*H. ox.* viii. 2. row 1. 6
—*Fl. dan.* 630—*Park.* 1144. 7. (3)—*Mont.* 96.

Involucrum longer than the barren, shorter than the fertile florets. *Florets*, 2 barren, 1 fertile, forming a set, the larger valve in all the florets awned. Each *barren* floret has a fence of 2 awn-like leaves, neither fringed nor expanded at the base. The *fertile* floret has 2 awn-like fence-leaves on the outside the larger awned valve of the blossom, and a third at the base of the inner or smaller valve, none of them either fringed or expanded at the base.

Meadow Barley.—*Hordeum murinum* β. LINN.—*Hordeum secalinum*. SCHREB. *spicileg.*—*Hordeum maritimum*. OEDER.—
Moist pastures. P. June.*

maritimum. H. Lateral florets male, awnless; middle floret hermaphrodite, with a long awn.

Dicks. h. s.-E. bot. 1205—*H. ox.* viii. 6. 5.

Involucrum longer than the barren, shorter than the fertile florets. *Florets* 2 barren, 1 fertile, forming a set; the larger valve in all the florets awned. Each *barren* floret has 2 fence-leaves, one of which is spear-shaped at the base. The *fertile* floret has 2 awn-like fence-leaves on the outside the large awned valve of the blossom, and a third short one at the base of the inner or smaller-valve.

This is the true *Squirrel-tail Grass* of the Isle of Thanet, and not, as Mr. Curtis says, the *Hord. murinum*. In its short and stunted growth, from its maritime situation, the awns are rigid and strongly barbed, so as to be extremely troublesome to the mouths of horses when mixed with hay. Major Veiley, who sent me the specimen, says it is very common all along the Kentish coast, from Sheppey Isle to the Isle of Thanet. The *Hord. murinum* on the sea coast sometimes assumes the stunted habit of the true *Squirrel-tail*, but it wants the rigidity of that, and is not so strongly barbed.

Sea side Barley. *Sea Barley.* *Gram. spicat. secalin. maritimum minus*. SCHEUCH. 18. St. *Hordeum marinum*. HUDS.
Meadows and pastures. near the sea. A. June, July.

* In moist meadows it produces a considerable quantity of hay, but is not to be recommended as one of the best grasses for the farmer. The best grasses, in my opinion, are the *Alopecurus pratensis*, *Poa trivialis*, *Dactylis glomerata*, *Cynosurus cristatus*, *Festuca duriuscula*, *Festuca pratensis*, *Festuca hybrida*, *Avena flavescens*, and above all *Lolium perenne*, carefully raised from seeds, first selected from the best varieties to be found in old meadows and pastures. If gardeners and even farmers, are so careful, as we know they are, in raising the seed of their cabbages and turnips, surely some of this care is due to their cultivated grasses. Mr. SWAYNE.

A. All the florets hermaphrodite, awned; calyxes growing sylvaticum. together at the base, shorter than the awns. HUDS.

Elymus europæus, which see. *Hordeum cylindricum*. MURR. prod. 43.

TRITICUM. *Calyx* 2-valved, solitary, mostly 3-flowered: *floret* bluntish.

T. *Calyx* 5-flowered, lopped; leaves, edges rolled in. jun'ceum.

Dicks. h. s.—Fl. dan. 916—E. bot. 814—C. B. th. 132—H. ox. viii. 1. 5.

Extremely smooth. *Sheaths* downy. *Leaves* sharp-pointed; very narrow; sea-green on the upper surface, *Spikets* pressed to the straw. *Calyx* and *Blossom* with or without awns. LINN.

Var. 2. With a leafy spike. RAY. *Triticum junceum. var. γ. Fl. Brit.*

Ger. 23. 2. C. B. 15—Park. 1277. 3;—this seems only a diseased plant, possibly from the puncture of insects.

Sea Wheat-grass. Rush Wheat. Sea shore, common. [Beach at Yarmouth. Mr. WOODWARD.] P. June—July.

T. *Calyx* 4 or 5-flowered, awl-shaped, tapering to a point; re'pens. leaves flat; root creeping.

Schreb. 26—E. bot. 909.

Var. 2. *Calyx* 2 to 5-flowered; awnless.

Schreb. 26. III—Leers 12. 3—H. ox. viii. row 3. 8—Mont. 25. Salt banks at Weymouth.

Var. 3. *Calyx* 5 to 8-flowered; awns not a line long.

Schreb. 26. II. and 2 and 3—Mont. 26—Park. 1173. 2—Barr. 906. 2—C. B. pr. 17. 1—th. 131—Gmel. 1. 24—Scheuch. 1. 1. A. C. 1.

Var. 4. *Calyx* 4 to 6-flowered; awns two to four lines long. ST.

Fl. dan. 748—Schreb. 26. 5 and 7—Scheuch. 1. 1. C. 2.

Var. 5. Leaves sea-green, stiff, acute. RAY. *Calyx* from 3 to 8-flowered; florets pointed. HUDS. *Triticum repens. var. β. Fl. Brit. Sea coast.*

Dog's-grass, Squitch-grass, Couch-grass, Couch Wheat, T. repens var. γ. Fl. Brit. Very common.

P. June—Aug.*

caninum. T. Calyx pointed, mostly 4-flowered; awns longer than the blossom; spikets upright.

E. bot. 1372—*Leers* 12 4. II.—*H. ox.* viii. 1. row 3. 2—*Buxb.* iv. 50.

Blossom inner valve spear-shaped, just sensibly longer than the outer; outer bare of hairs, edges at the point membranaceous. The above circumstances distinguish it from the *Festuca sylvatica*, which it very much resembles in its general appearance. *Str.*

Dog's Wheat. Bearded Wheat-grass. Triticum caninum. LINN. sp. pl. ed. I. HUDS. SCHREB. spicileg. *Elymus caninus.* LINN. Woods and hedges. [Ripton Wood, Huntingdonshire, and in the North, frequent. Mr. WOODWARD.] P. June—July.

lolia'ceum. T. Spike simple, compressed; spikets egg-shaped but pointed; calyx many-flowered.

E. bot. 221—*Pluk.* 32. 7.

Whole plant rigid, three or four inches high. *Floral-leaf* shorter than the spike. *Spike* one inch and a quarter to two inches long, a quarter of an inch broad. *Spikets* 10 to 15, not crowded. *Calyx* 6 or 8-flowered, both that and the blossom awnless. The serpentine spike-stalk, which from the spikets facing one way becomes visible behind through its whole length, has a strong wood-like mid-rib, edged with a thinner and greener border, the same as in the *Poa rigida*.

Sea Wheat. Dwarf Sea Wheat-grass. Poa loliacea. HUDS. Sandy sea shores. A. June—July.†

* This is a most troublesome weed in arable lands, and can only be destroyed by fallowing in a dry summer. At Naples the roots are collected in large quantities, and sold in the market to feed horses; they have a sweet taste, somewhat approaching to that of liquorice; when dried and ground to meal, they have been made into bread in seasons of scarcity. The juice of them, drank liberally, is recommended by Boerhaave in obstructions of the viscera; particularly in cases of schirrous liver and jaundice. Cattle are frequently found to have schirrous livers in the winter, and they soon get cured when turned out to grass in the spring. Dogs eat the leaves to excite vomiting.—Horses eat them when young, but leave them when fully grown. Mr. SOUTHWELL. Cows, sheep, and goats eat them. Mr. Pitt observes, that this is the most common kind of Squitch in gardens, but that the Squitch so troublesome in arable lands is formed by several species of *Agrostis*, *Holcus mollis*, and *Avena elatior*—Staffordshire Reports.

† (It may be here observed that the devastation made amongst the cultivated kinds of grain, has been fully proved to be caused both by per-

TRIGYNIA.

AMARAN'THUS. Flowers M. and F. on the same plant: *blossom* none: *calyx* 3 or 5-leaved.

Male. Stamens from 2 to 5.

Female *Caps.* 1 cell, cut round; 1 seed.

A. Stamens 3; clusters lateral; flowers 3-cleft; stem Bli'tum. spreading.

E. bot. 2212—*Kniph.* 11—*Cam. epit.* 236—*J. B.* ii. 967. 1—*Pet.* 7—*H. ox.* v. 30. 5—*Lob. ic* i. 250. 1—*Ger. em.* 321. 4.

noxious vegetable, and animal influence. That very destructive blight, the *Mildew* or *Rust* in corn, is now ascertained by the microscopical observations of the Right Hon. Sir Joseph Banks and Mr. Bauer of Kew, to be occasioned by a minute parasitic fungus, or *Uredo frumenti*, allied to Persoon's division, "*peridio nullo, sporulis rotundis uniformibus*," which undermines the epidermis of the leaves and stalks, and bursts forth at different places in more or less linear, brown or blackish stripes. It is said the earlier crops are less liable to this injury than the later. It first appears on the leaves of corn, early in the spring, in the form of rust or orange coloured powder, afterwards becomes chocolate, and finally ripens black. The seeds of wheat are rendered so lean and shrivelled by the exhausting power of the fungus, that scarce any flour fit for making bread can be obtained by grinding them; how far such grains will answer the purpose of seed-corn, is disputed, though we cannot but incline to favour the opinion that sound seed must be sown to insure a good crop of prime corn. A further account of this species of blight, with excellent figures, may be seen in the *Annals of Botany*. It may be scarcely necessary to add, that among the insect tribe, the commonly reported enemy to grain is the *Grub*, (of the *Tipula* or *Crane-fly*,) and the *Wire-worm* or *Root-worm*, of which there are several species; but in the 9th vol. of the *Linn Trans.* we find an important paper, accompanied with a plate, of a non-descript insect, which the author T. Walford, Esq. supposes to be the prevalent *Wire-worm* of Essex and Suffolk, so destructive in the months of October and November. "With their projecting jaws these insects cut round the outside grass, about an inch below the surface of the soil, to get at the young white shoot in the centre, which they eat; upon this vegetation is immediately stopped, and the plant dies. They are also charged with eating the flour in the grains not yet drawn out of the soil, their habitations are the husks. From accurate observation, Mr. Walford calculates the number of acres annually destroyed in England, by these noxious insects, to be not less than 60,000! Early ploughing is advised as the only preventive, and the free use of unslacked lime, the most probable remedy for this extensive devastation,—alarming indeed—did we not consider the miraculous power of increase in a single grain of wheat. In 1768, Mr. Charles Miller made experiments on the sowing of wheat, and dividing the root, by which means were produced in one year, from one grain, 21,109 ears, which yielded three pecks and three quarters of clean corn, weighing 47 pounds and 7 ounces; and the number of grains calculated by the number in one ounce, might be 576,840! vid. *Phil. Trans.* v: 58: E.)

Leaves sometimes white or silvery in the middle, with or without a brown spot. LINN. *Leaves* alternate, the smaller egg-shaped, the larger somewhat rhomboidal, with a deep notch at the end, and usually a small projecting point, entire; with a strong mid-rib and parallel ribs underneath. *Leaf-stalks* as long as the leaves. *Flowers* numerous. *Bunches* irregular, sitting, on small lateral branches, with small leaves interspersed. Mr. WOODWARD.—(*Seeds* shining, black, convex on both sides. *Stem* trailing, branched, leafy, widely spreading. *Fl. Brit. E.*)

Small Garden Blite. Wild Amaranth. On rubbish. [Ripton, Huntingdonshire. Mr. WOODWARD.]—(Battersea Fields. Mr. DICKSON.—Near Parker's Piece, Cambridgeshire. RELHAN.—About Weymouth and Poole. PULTENEY, E.) A. Aug.

MON'TIA. *Calyx* 2 leaves: *blossom* 1 petal, irregular: *caps.* 1-celled, 2-valved.

fonta'na, M.

Mich. 13. 2—*Curt.* 188—*E. bot.* 1206—*Vaill.* 3. 4—*Pluk.* 7. 5—*Pet.* 10. 12—*Fl. dan.* 131.

Stems succulent, trailing, crooked; white or tinged with pink. *Leaves* rather fleshy, egg-shaped, opposite; two at each joint of the stem, *Flowers* on long or short crooked fruit-stalks rising from the bosom of the leaves. *Blossom* white. *Seeds* black, shining.—(Dr. SMITH observes that the *capsules* vary with three valves, and three seeds. *Fl. Brit. E.*)

Small Water Chickweed, or Purslane. Water Blinks. Springs and watery lanes. Sometimes in wet ploughed lands. Wet heaths in Norfolk, frequent. Mr. WOODWARD. [Hockley Pool Grate, near Birmingham. Marazion Marsh in Cornwall, where it grows as large as the figure of Micheli.] A. May.

TILLÆ'A. *Calyx* with 3 or 4 divisions: *petals* 3 or 4, equal: *caps.* 3 or 4-seeded.

musco'sa. T. Trailing: flowers 3-cleft.

E. bot. 116—*Rose* 2. 2—*Mich.* 20.

Stems at first nearly upright, generally red. ROSE. *Parts of fructification* never more than three. *Leaves* in pairs, fleshy. *Floral-leaves* shaped like the other leaves, but smaller. *Stalks* considerably longer after flowering. Mr. ROSE's description very good. Mr. WOODWARD.—(*Flowers* generally solitary,

sitting, mostly 3-cleft, sometimes 4, or, according to Gærtner, 5-cleft. *Petals* smaller than the cup, awl-shaped. *Capsule* 2-seeded. *Fl. Brit. E.*)

Mossy Red-shanks, [Dry heaths, Norfolk and Suffolk. Mr. WOODWARD.] P. May—June.

HOLO'STEUM. *Calyx* 5 leaves: *petals* 5: *caps* 1-celled, nearly cylindrical, opening at the top.

H. Flowers in umbels.

umbella'tum.

Dicks. h. s.—E. bot. 27—*J. B.* iii. 361. 1—*Rose* 2. 4—*Ger. em.* 595. 16—*Park.* 1338. 6—*H. ox.* v. 22. 46.

Whole *plant* smooth. *Stem* above bare of leaves. *Fruit-stalks* terminating, mostly hanging down, of various lengths, each with one flower. Mr. WOODWARD. *Leaves* egg-shaped, but pointed. *Petals* pale, reddish; toothed at the end, but not deeply divided as in the *Cerastia*. *Stamens* 3, but sometimes more.

Umbelliferous Mouse-ear. *Cerastium umbellatum.* Huds. Old walls, banks, and sandy corn fields about Norwich, where it was first discovered and examined by Mr. J. Pitchford. *Rose.* Mr. WOODWARD.—(On walls about Bury, in Suffolk. Sir T. G. CULLUM, Bart. E.) A. April—May.

POLYCAR'PON. *Calyx* 5 leaves: *petals* 5, small, egg-shaped: *caps* 1-celled, 3-valved.

P. Stem branched, trailing; leaves in fours, inversely tetraphyl-lum, egg-shaped.

E. bot. 1031—*Matth.* 734—*Barr.* 534—*J. B.* iii. 366. 2—*Lob. adv.* 196. 1.

Sometimes without petals. HUDS. It alters its habit so much by cultivation as hardly to be known at first sight. Mr. WOODWARD. *Leaves* oval, very entire, on leaf-stalks, growing mostly in fours. Mr. NEWBERRY.—(*Flowers* numerous, small. *Calyx* edged with white. *Valves* of the *capsules* spear-shaped, turned in at the edges. *Seeds* many. *Fl. Brit. E.*)

Four-leaved Allseed. Dry sandy ground. [Lymston, near Exeter. Mr. NEWBERRY.—(On the neck of the Isle of Portland, close to the shingly beach. Rev. Dr. GOODENOUGH. E.) A. May—Aug.

ENNEAGYNIA.

EM'PETRUM. M. and F. flowers on separate plants. *Calyx* with 3 divisions: *bloss.* 3 petals. Male. *Stam.* long. Fem. *Berry* with 9 seeds.

ni'grum.

E. Stems trailing.

Mill. ill.—*Dicks. h. s.*—*E. bot.* 526—*Fl. dan.* 975—*Tourn.* 421.
3—*Matth.* 154—*Clus. i.* 45. 2—*Ger. em.* 1383. 9—*Park.*
1485. 2—*Cam. epit.* 77—*J. B. i.* a 526.

A small trailing shrub. *Bark* the outer scaling off, brown; the inner yellow. *Branches* rough from the remains of the leaf-stalks. *Bud* terminating, of five leaves; the leaves membranaceous, hairy at the edge, producing five little branches, four of which are in a whirl. *Leaves* in fours, nearly three-square, with a white strap-shaped keel, on leaf-stalks. *Flowers* from the bosom of the leaves, sitting, solitary, surrounded by a floral-leaf, sometimes male and female on distinct plants, sometimes on the same plant, and sometimes with hermaphrodite flowers. *Floral-leaf* with three divisions, forming a kind of outer cup. *Calyx* whitish. *Petals* and *filaments* purple.—*Anthers* brownish black. *Fertile plant* similar to the barren one. *Stem* redder. *Leaves* deep green, in fives. *Pistil* black. *Berries* brownish black. Prof. Jacquin has lately found several plants with hermaphrodite flowers. I formerly met with a single plant of that kind, but it was only one in ten thousand. LINN. *Leaves* sitting, smooth above, glandular underneath, woolly at the edges, and rolled back so that the edges meet on the under side. *Calyx* segments concave, very minutely serrated. *Petals* dark purplish red. *Anthers* full flesh-colour. (*Male Flowers*: stamens hair-like, from three to nine. *Female Flowers*: summits nine. *Fl. Brit. E.*)

Black-berried Heath. Black Crowe-berries. Crake-berries. Moist mountains and dry heaths, both in the driest and most barren rocky soils, and in bogs and moorish grounds. Staffordshire, Derbyshire, and the Northern counties, frequent.

S. April—May.*

* The Highlanders frequently eat the berries, as sometimes do children, but they are no very desirable fruit, and if taken in large quantities occasion head-ache.—Grouse feed upon them—Boiled with alum they afford a dark purple dye. Goats are not fond of it; Cows, sheep and horses refuse it.

CLASS IV.

TETRANDRIA.

MONOGYNIA.

- (1) *Flowers of 2 petals and 1 seed: superior: INCORPORATED.*

DIP'SACUS. *Cal.* common, leafy: *Receptacle* conical; chaffy: *Seeds* like little pillars.

SCABIO'SA. *Cal.* common, of many leaves: *Receptacle* convex, somewhat chaffy: *Seeds* crowned; rolled in a cover.

- (2) *Flowers of 2 petals, and 2 seeds. INCORPORATED.*

ERIOCAU'LON. Male and female florets incorporated in the same head, the former in the centre, the latter in the circumference.

Cal. common, of many scales,

Cup 2 leaves: *Bloss.* 2 petals.

F. Capsules 2 cells, and 2 seeds.

- (3) *Flowers of 1 petal; beneath the germen.*

LITTOREL'LA. M. and F. flowers on the same plant.

Cal. 4-cleft.

M. *Cal.* 4 leaves: *Stam.* long.

F. *Cal.* none: *Style* long: *Seed* a nut.

CENTUN'CULUS. *Bloss.* wheel-shaped: *Cal.* with 4 divisions: *Caps.* 1 cell; cut round.

PLANTA'GO. *Bloss.* bent back as if broken: *Cal.* with 4 divisions: *Caps.* 2 cells; cut round.

EX'ACUM, *Bloss.* rather bell-shaped: *Cal.* 4 leaves: *Caps.* 2 cells, compressed.

[*Gentiana campestris*, and *filiformis*.]

- (4) *Flowers of 1 petal; beneath, and 4 naked seeds.*

[*Mentha*.]

(5) *Flowers of 1 petal; above the germen.*

SANGUISOR'BA. *Bloss.* flat: *Cal.* 2 leaves: *Caps.* 4-cornered; between the cup and the blossom.

(6) *Flowers of 1 petal; superior; and 2 berries.* STARRY.

RU'BIA. *Bloss.* bell-shaped: *Fruit* like berries.

GALIUM. *Bloss* flat: *Fruit* nearly globular: *Florets* all hermaphrodite.

ASPER'ULA. *Bloss.* tubular: *Fruit* nearly globular.

SHERAR'DIA. *Bloss.* tubular: *Fruit* crowned: *Seeds* with 3 teeth.

(7) *Flowers of 4 petals; beneath the germen.*

EMPIMEDIUM. *Nectariferous* petals 4, reclining: *Cal.* 4 leaves: *Pod* 1 cell.

[*Cardamine hirsuta.* *Evonymus europæus.* *Parietaria officinalis.*]

(8) *Flowers of 4 petals; above the germen.*

COR'NUS. *Cal.* 4-toothed; deciduous; *Drupa* a nut with 2 cells.

(9) *Flowers incomplete; beneath the germen.*

ALCHEMIL'LA. *Cup* with 8 clefts: *Seed* 1, inclosed in the cup.

PARIETA'RIA. *Flowers* hermaphrodite, and Female. *Cal.* 4-cleft: *Seed* 1, elongated.

URTICA. *Flowers* male and female on the same, rarely on distinct plants.

M. *Cal.* 4 leaves: *Nectary* central; glass-shaped.

F. *Cal.* 2 valves: *Seed* 1; glossy.

(10) *Flowers incomplete; above the germen.*

VISCUM. *Flowers* male and female on distinct plants, M. *Cal.* with 4 divisions: *Anthers* fixed to the calyx without any intervening filaments.

HIPPO'PHAE. *Flowers* male and female on distinct plants. *Bloss.* none.

M. *Cal.* with 2 divisions.

F. *Cal.* 2-cleft: *Berry* with 1 seed.

[*Thesium alpinum.* *Ophrys Corallorhiza.*]

DIGYNIA.

BUFFONIA. *Bloss.* 4 petals: *Cal.* 4 leaves: *Caps.* 1 cell; 2 seeds and 2 valves.

BETULA. Flowers male and female on the same plant. *Cal.* 3-cleft; *Bloss.* with 3 or 4 divisions.

M. *Cal.* containing 3 flowers.

F. *Cal.* containing 2 flowers: *Seeds* with a membranaceous border on each side.

MYRICA. Flowers male and female on the same, or on distinct plants. *Catkin* scales crescent-shaped: *Bloss.* none.

F. *Berry* with 1 seed.

CUSCUTA. *Bloss.* 4-cleft; egg-shaped: *Cal.* 4-cleft: *Caps.* 2-celled: cut round.

[*Herniaria glabra*. *Gentiana campestris*, and *filiformis*. *Galium Mollugo*, and *Aparine*.]

TRIGYNIA.

BUXUS. Flowers male and female on the same plant.

M. *Cal.* 3 leaves: *Bloss.* 2 petals: *Germen* an imperfect rudiment only.

F. *Cal.* 4 leaves: *Bloss.* 3 petals: *Caps.* with 3 beaks and 3 cells: *Seeds* 2.

TETRAGYNIA.

ILEX. *Bloss.* 1 petal: *Cal.* 4-toothed: *Berry* with 4 seeds.

SAGINA. *Bloss.* 4 petals: *Cal.* 4 leaves: *Caps.* with 4 cells, and many seeds.

TILLÆA. (See Triandria Trigynia.)

POTAMOGETON. *Bloss.* none: *Cal.* 4 leaves: *Seeds* 4; sitting.

RUPPIA. *Bloss.* none: *Cal.* none: *Seeds* 4; on footstalks.

[*Holostium umbellatum*. *Linum Radiola*.]

MONOGYNIA.

DIP'SACUS. *Cal. common many-leaved; proper superior: Receptacle chaffy.*

fullo'num. *D.* Leaves sitting; serrated; chaff bent backwards.

E. bot. 2080—*Fl. dan* 965—*Kniph.* 12—*Tourn.* 265—*Fuchs.* 224—*Trag.* 847—*J. B.* iii. 73—*Matthiol.* 661—*Dod.* 735. 1—*Lob. obs.* 487. 1—*Ger. em.* 1167. 1—*Park.* 984. 1—*H. ox.* vii. 36. 1—*Zanon.* 68.

Scales much harder than those of the *D. sylvestris*. HALL.
(Whether this plant has ever been found really wild in Britain appears doubtful. Dr. Smith suspects the specific difference between this and *D. sylvestris*; and appears almost satisfied that *D. laciniatus* of Linn. is only a variety of *D. fullonum*. E.)

Fuller's Teasel. Manured Teasel. Dipsacus fullonum. β
LINN.* B. July.

sylves'tris. *D.* Leaves in opposite pairs, united at the base; chaff straight.

Jacq. austr. 402—*Curt.* 202—*E. bot.* 1032—*Blackw.* 50—*Fuchs.* 225—*J. B.* iii. 74—*Matth.* 662—*Dod.* 735—*Lob. obs.* 487. 3—*Ger. em.* 1167. 2—*Park.* 984. 2—*Ger.* 1005. 1—*H. ox.* vii. 36. 3.

Leaves spear-shaped, the mid-rib set with hooked prickles, as is also the stem. *Common calyx leaves* of various lengths, rising up and some over topping the flowering head.

Wild Teasel. Dipsacus fullonum, &c. LINN.—Uncultivated places, wet hedge banks.—I have not found it north of Derbyshire and Nottinghamshire. Mr. WOOD.—(Very frequent in the lanes about Dover, and other parts of Kent and Sussex. E.)
B. June—Aug.

pilo'sus. *D.* Leaves on leaf-stalks, with appendages at the base.

Curt.—Jacq. austr. 248—*E. bot.* 877—*Blackw.* 124. 2—*H. ox.* vii. 36. 5—*Park.* 984. 4—*Matth.* 663—*Dod.* 735. 3—*Lob. obs.* 487. 2—*Ger. em.* 1168. 3—*Blackw.* 124. 1—*J. B.* iii. 75. 2.

* It is cultivated for the use of the clothiers, who employ the heads with crooked awns to raise the knap upon woollen cloths. For this purpose they are fixed round the circumference of a large broad wheel, which is made to turn round, and the cloth is held against them. The plant flowers in June and July, and the heads are collected in August.

Shepherd's Rod. Shepherd's Staff. Small Teasel. Hedges and damp places.—(Out of St. Benedict's Gates, Norwich, and in several other parts of Norfolk. At Matlock.—Near Deptford, in the London road. Rev. Dr. GOODENOUGH. *Fl. Brit.*—Frequent in Norfolk and Suffolk. Mr. WOODWARD. E.)—[Abbey Lane, Evesham, Worcestershire. Mr. BALLARD.—Lilleshall Abbey, Shropshire.] B. Aug.

SCABIOSA. *Cal. common, many-leaved: proper double, superior: Recept. naked or chaffy: Seed wrapped in the proper cup.*

S. Blossoms 4-cleft, equal; stem undivided: branches ap- *succi'sa.*
proaching; leaves spear-egg-shaped.

Ludw. 193—*Curt.—E bot.* 878—*Fl. dan.* 279—*Fuchs.* 715—*Trag.* 246—*J. B. iii.* 11—*H. ox. vi.* 13. 7—*Blackw.* 142—*Matth.* 623—*Dod.* 124. 1—*Lob. obs.* 295. 2—*Ger. em.* 726—*Park.* 492. 1—*Ger.* 587.

(Root oblong, abruptly bitten off; (hence the name, the superstitious supposing the root to be bitten off by the devil, for envy of its imaginary benefit to mankind. E.)—*Stem* and *leaves* rough with hair, generally entire, but those on the stem sometimes serrated. *Flowers* in globular heads. *Proper Cup* (the *outer cup* of LINN.) 4-cornered, hairy, with four shallow clefts, the segments fringed with white hairs. *Nectary* (the *inner cup* of LINN.) inclosing the germen, crowned with a concave, glandular receptacle, armed with four or five strong reddish black bristles. Besides the above apparatus, each floret is furnished with a green spear-shaped floral-leaf, terminated by a white taper bristle. *Blossom* blueish purple, flesh-coloured, or white; sometimes double.

Devil's-bit Scabious. Fields and pastures, frequent.

P. June—Aug.*

S. Blossoms 4-cleft, radiating; leaves wing-cleft, and jag- *arven'sis.*
ged; stem rough with strong hairs.

Curt. 288—*E. bot.* 659—*Kniph.* 3—*Ludw.* 21—*Sheldr.* 98, &c. *Fl. dan.* 447—*Fuchs.* 716—*Trag.* 242—*J. B. iii.* 2. 1—*Ger.* 583. 4—*Blackw.* 185—*H. ox. vi.* 13. 1—*Ger. em.* 720. 4—*Dod.* 122. 1—*Lob. obs.* 291. 1—*Ger. em.* 719. 1—*Park.* 485. 1.

* The dried leaves are used to dye wool yellow or green. LINN.—A strong decoction of it, used in continuance, is an empirical secret for gonorrhœa.

Sometimes smooth, *Flowers* sometimes white, and all the leaves entire. HALL.—*Proper Cup* 4-cornered, hairy; with four small teeth. *Nectary* (the inner cup of LINN.) inclosing the germen; crowned with a concave receptacle, set with shining glands on the inside, and armed with eight or twelve spear-shaped, serrated, greenish, bristly substances, hairy at the base. *Florets in the circumference* larger, with four unequal clefts, *Florets in the centre* regular. *Leaves* rough with hairs and tubercles; spear-shaped, and more or less jagged; some of them wing-cleft. *Blossom* a little woolly; blue, purple, or white.

Field Scabious. Pastures and cornfields. P. July—Aug.*

columba-
ria.

S. Blossoms 5-cleft, radiating; root-leaves simple, scoloped; stem-leaves compound.

E. bot. 1311—*Kniph.* 12—*Walc.*—*Ger.* 582. 2—*Column. phytob.* 22—*Clus.* ii. 2. 2—*Dod.* 122. 3—*Lob. obs.* 290. 2—*Ger. em.* 719. 2—*Park.* 484. 1—*J. B.* iii. 4—*Matth.* 970—*Fl. dan.* 314—*H. or vi.* 14. 20.

Feather with five bristles as long as the blossom. LINN. *Root* long, tapering to a point. *Outer segments* of the outer blossoms much larger than the inner. *Flowers* blueish lilac colour.

Small Scabious. Dry hilly pastures, frequent. P. June—Sept.†

ERIOCAULON. *Cal.* common, a tiled head.

Male florets in the centre, of 1 petal.

Fem. in the circumference, 2-petaled. *Caps.* 2 cells. *Seeds* 2.

septangu-
la're.

E. Stalk with 7 angles, sheathed at the base; leaves sword-shaped.

E. bot. 733—*Phil. trans.* lix. p. 243—*Penn. hebr.* i. 39, at p. 314.

Grows under water. *Stalk* one foot to one foot and half high, the top rising above the water when in flower. LIGHTFOOT. *Fringe* of the calyx white. *Petals* white, with a black spot on the limb. DR. HOPE.

Dr. Hope sent the plant to Linnæus, who, as he afterwards informed me, said it was the *E. decangulare*; but Dr. Hope in his excellent and accurate description, describes the stalk as having

* Sheep and goats eat it. Horses and cows not fond of it. It is slightly astringent, bitter, and saponaceous.

† Horses, sheep, and goats eat it. The *Papilio Maturna* feeds upon all the species.

only seven angles, and sheathed at the base. See Phil. Trans. v. 69. If the fig. of Plukenet, 409, 5, is to be relied upon, the American plant which Linnæus called *E. decangulare*, wants the sheath on the stalk; the proportion of the leaves is also different; and from the character given to it by Linnæus, the stalk has ten angles, and the male flower four stamens, so that I am disposed to believe that the British plant is really a different species, and have named it accordingly.

Wreathed Pipe-wort. Nasmythia articulata. HUDS. Discovered by Mr. ROBERTSON, a pupil of Dr. Hope, in a small lake in the Isle of Skye, in 1768. In two or three small fresh water lochs about a mile West of Loch-sligachan, in the Isle of Skye, but particularly in a small lake called Loch-na-Caiplich, close to the road side between Sligachan and Drynoch, in such abundance, that the white fibres of the roots are thrown on the edges of the loch as sea weeds on the sea shore. LIGHTFOOT. P. July. HUDS. Sept. LIGHTFOOT. The root is slightly acrimonious when chewed.

SHERAR'DIA. *Bloss.* 1 petal, funnel-shaped, long: *seeds* 2, naked, crowned by the calyx.

S. All the leaves in whirls; flowers terminating.

arve'ris.

Curt. 315-*E. bot.* 891-*Fl. dan.* 439-*Blair* 4. 6-*Pet.* 30. 10-*J. B.* iii. 719. 3-*Barr.* 766, and 541. 1.

The whole plant is harsh and rough, from four to seven inches high. *Leaves* five or six in a whirl. *Floral-leaves* terminating, compressed, deeply divided into eight parts, and inclosing three or four florets. *Calyx* with four, five, or six teeth. *Blossom* blue or purple: tube very long, segments egg-shaped.

Little Field Madder. Little Spur wort. Corn and fallow fields, common. A. May-Sept.

ASPE'RULA. *Bloss.* 1 petal, funnel-shaped: *seeds* 2, globular, like cork.

A. Leaves 8 in a whirl, spear-shaped; flowers in bundles, odora'ta. on fruit-stalks.

Dicks. h. s.-E. bot. 755-*Ludw.* 146-*Curt.* 249-*Sheldr.* 29-*Kniph.* 1-*Clus.* ii. 175. 2-*Dod.* 355. 2-*Lob. obs.* 464. 2-*Ger. em.* 1124. 1-*Park.* 563. 1-*H. ox.* ix. 22, row 1, fig. the 4th.-*Fl. dan.* 562-*Ger.* 966-*Trag.* 496-*Pet.* 30. 9-*Blackw.* 60-*J. B.* iii. 718. 3-*Mill.* 55. 2.

Fruit covered with stiff hooked hairs. Mr. WOODWARD. *Panicle* with three divisions. *Leaves* varying, from five to nine in a whirl. *Flowers* of a beautiful snowy white, and, when a little magnified, appear sprinkled with shining, frosted particles. *Calyx* not very evidently toothed. From five to ten inches high.*

Sweet Woodroof. *Woodruff.* *Woodderowffe*, as spelt in some old authors. The repetition of the double letters affords great amusement to children learning to spell. [Woods in Herts. Mr. WOODWARD.—Near Armingdale wood by Norwich. Mr. CROWE.—About Chepstow, Monmouthshire, plentiful in the hedges. Mr. PITT.—Woods and shady places. At the Leasowes, near Halesowen.]—(Woods about Garn, Denbighshire. Mr. GRIFFITH. E.) P. May.†

cynan'chica. A. Leaves 4 in a whirl, strap-shaped: upper leaves opposite; stem upright: flowers 4-cleft.

E. bot. 33—Kniph. 11—J. B. iii, 723. 2—Col. ecphr. 297. 1—Pet. 30. 12—H. ox, ix. 22. 9.

Leaves frequently pointing one way, sometimes five in a whirl. Mr. WOODWARD.—(*Fruit* smooth, not rough with hairs, as represented by the fig. in Col. Ecphr. SMITH. E.)—About five or six inches high, the lower part trailing. *Leaves* unequal in size. *Blossom* pale rose red, streaked with deeper red lines.

Squinancy-wort. *Squinancy Woodroof.* Limestone hills, and high chalkey soils. [Swaffham, Norfolk. Newmarket Heath. Dunstable Hills. Mr. WOODWARD. Salisbury Plain.]

P. June—July.

GA'LIIUM. Bloss. 1 petal, bell-shaped, short: seeds 2, nearly globular, beneath; like cork.

(1) *Seeds smooth.*

crucia'tum. G. Stem hairy, only branched at the base; leaves hairy, egg-shaped, 4 in a whirl; fruit-stalks with 2 or 3 leaves.

* Dr. Smith remarks the fresh herb has no smell; but as soon as it begins to dry it exhales a pleasant and lasting fragrance like that of new hay, verging towards the flavour of bitter almonds.

† The scent of it is said to drive away Ticks and other insects. LINN. It gives a grateful flavour to wine; cows, horses, sheep, and goats eat it—(The strongly aromatic flowers infused in water, far excel in flavour all the teas imported from China. WILlich. E.)



Galium montanum, or Withering's Galium.

E. bot. 143—*Blackw.* 76—*Walc.—Dod.* 357. 1—*Gars.* 235—*Lob. obs.* 467. 2—*Ger. em.* 1123. 1—*Ger.* 965—*Park.* 566—*H. or.* ix. 21. row 2. 1. *Cruciata*—*J. B.* iii. 717 and 2.

The structure of the flowers is liable to many variations. They are generally hermaphrodite, but sometimes male flowers intervene. *Blossom* segments from three to five, though mostly four. *Stamens* three to five, always corresponding in number with the segments of the blossom. *Seeds* 1 or 2, the second frequently proving abortive. In one hermaphrodite flower Mr. Woodward found five perfect stamens, and four others shorter, but containing pollen; the pistil had four clefts, the summit of the fourth only being imperfect. *Stem* branched at bottom, undivided upwards. *Bunches* from the bosom of the leaves, divided and subdivided. *Blossom* yellow. When the seeds ripen, the leaves bend inwards and cover them so effectually, that birds cannot get at them without tearing away the leaves.

Cross-wort. Mugwort. Mugweed. Valantia cruciata. LINN. *Galium cruciata.* SCOP. Hedge banks and other rough places; often in meadows amongst mowing grass. [Plentiful from Newcastle to within a few miles of Worcester, but further South it is scarce. Mr. BAKER.] P. May—July.

G. Leaves unequal, strap-spear-shaped, smooth, entire, palus'tre: blunt, 4, 5, or 6 in a whirl: stems rough, spreading, branched upwards.

Fl. dan. 423—*E. bot.* 1857—*Pet.* 50. 5.—*Ger.* 967.

From one to two feet high. *Leaves* scarcely rough to the touch. *Blossom* white, numerous, on lateral and terminating fruit-stalks; forming a sort of umbel cloven into three parts, and again subdivided.

Var. 2. Leaves strap-shaped, four in a whirl.

Resembles the preceding but smaller and hardly half so high. Found on dry ground in Dudley Wood. The leaves being blunt and quite entire, sufficiently distinguish this from the *G. montanum* and *G. procumbens*.

White Ladies' Bed-straw. Banks of rivulets and pools, moist meadows, wet commons. P. July—Aug.

G. Leaves strap-spear-shaped, smooth, about 4 or 5 in a Whithering'ii. whirl; stem feeble, rough: leaves reflected.

PLATE XXVIII,

E. bot. 2206.

Of a middle size, between the *G. mollugo* and *G. glaucum*. *Stem-leaves* five in a whirl, bent back. *Branch-leaves* four in a whirl. *Corymbus* three cleft; white, purplish on the outside before it expands. *Anthers* brown. LINN. About eight inches high, not at all branched, except sending off fruit-stalks from the whirls of leaves. *Stems* feeble, rough. *Leaves* five in a whirl; turned back, some so much so as to point downwards; serrated with hairs, pointed with a hair, not with a rigid bristle or prickle. *Blossom* purple on the outside whilst young. *Anthers* red brown. *Pistil* very short, cloven down to the base.

(*Rough Heath Bed-straw. G. Witheringii*. Fl. Brit. *Galium montanum*. With. Ed. 4. though the author then suspected his plant might prove a new species, distinct from the *G. montanum* of Linn. which opinion has been confirmed by Dr. SMITH, who has been pleased to name the new plant after its discoverer. E.) On high, but boggy parts of Handsworth Heath, near Birmingham.—(On Bank meadow, Rose Castle, Cumberland, Bishop of Carlisle, in *E. bot.* Walkington Wood, near Beverley. TEESDALE, in *Bot. Guide*. Banks of ponds at Lambton, Durham, Rev. J. FENWICK. ditto. July.

procumbens. *G.* Leaves spear-egg-shaped, 4, 5 or 6 in a whirl; dagger-pointed, smooth, expanding; stem prostrate, smooth.

E. bot. 815—*Pet.* 30. 6.

Leaves sometimes nearly strap-shaped. *Fl. Brit.* *Stems* and *branches* prostrate, smooth, matted together and spreading on the ground. *Flowering stem* from two to six inches high. *Stems* twisted, cylindrical, but with four rounded corners. *Leaves* four in a whirl at the bottom, five about the middle, and six at the top of the plant, unequal in size, edged with fine prickle-shaped glands; keel smooth. *Flowers* in umbels, lateral and terminating, one, two, or three from the whirls at the joints of the stem. *Blossom* white, sometimes purplish on the outside. *Anthers* yellow. *Pistil* nearly as long as the stamens, divided down to the base. *Seeds* not rough but with a granulated surface.

Trailing Goose-grass. G. montium. Gmelin. Syst. veg. *G. montanum*. Huds. *G. Saxatile*. E. bot. Fl. Brit. Heaths and mountains. HUDSON.—Also in marshy places. RAY.—I suspect, however, that Ray's species comprehends also the *G. Mollugo* in its dwarf state, which see variety 2. ST. On Heaths. Mr. SWAYNE.—(Frequent on Heaths in Norfolk and Suffolk. Mr. WOODWARD. E.)—On Dudley Wood, one mile S. W. of Dudley; and on Handsworth Heath, near Birmingham. P. July.

G. Leaves in sixes, spear-shaped, dagger-pointed, stiff, uliginosum. bowed backwards; serrated with prickles; blossoms larger than the fruit.

E. bot. 1972—*Kniph.* 10—*Barr.* 82—*J. B.* iii. 216. 2.

Leaves free from hairs, ending in a thorn-like point. *Seeds* smooth. LINN. *Leaves* sometimes seven or eight in a whirl. HUDS. *Blossom* white, with a tinge of rose-colour. HALL. The leaves are disposed to turn back and point downwards, as in the *G. montanum*.

Var. 2. Upper leaves six, lower ones four in a whirl; not dagger-pointed. All the leaves strap-shaped, but not ending in a thorn-like point. *Flowers* in a 3-cleft umbel, the middle spoke but half the length of the other two. *Anthems* purplish red.

Found growing with *G. palustre*, but does not at all agree with that, and probably will prove to be a distinct species.

The prickles at the edge of the leaves and the sharp dagger-like point, readily distinguish the first of these from the *G. montanum*, and the smooth stem separates it both from the *montanum* and *palustre*.

Marsh Goose-grass. Rough Marsh Bed-straw. Meadows, pastures, and wet heaths. On the lower bog at Chisselhurst. RAY. (Not uncommon in Norfolk. E. bot. E.) P. July.

G. Leaves 8 in a whirl, rough with hairs, strap-shaped, pusillum. tapering to a point; whirls crowded at the base of the stem; fruit-stalks forked.

E. bot. 74.

Stems numerous, angular, a finger's length. *Leaves* six or eight in a whirl, strap-shaped, or between spear and strap-shaped, sharp, rough, as are also the stems, with expanding hairs. *Branches* few, alternate. *Whirls* of leaves often so thickly set as partly to tile the stems. *Panicle* thin set, mostly terminating, upon twice forked fruit-stalks. LINN. *Leaves* seven or eight in a whirl; tiling the lower part of the stem. *Flowers* white. *Seeds* small, smooth. HUDS. *Angles* of the stem, and edges and mid-ribs of the leaves rough with expanding hairs. *Leaves* rarely so many as eight. Mr. WOODWARD. Approaches near to the *G. uliginosum*, but may be known from that by the blossom not being pinkey on the outside, by the fruit-stalks being either smooth or only hairy and not rough and harsh with prickles, but notwithstanding these differences I doubt whether the two plants which our botanists have called *pusillum* and *uliginosum* be really distinct species.

Least Goose-grass. Least Mountain Bed-straw. Limestone Hills, near Kendal, Westmoreland. Near the bath at Matlock.

Dr. SMITH.—(Fields at Shefford, Bedfordshire. ABBOT.—
Common in Cumberland, and Lancashire. Mr. WOODWARD. E.)
P. July—Aug.

- erect'um. G. Leaves mostly 8 in a whirl; spear-shaped, with finely prickly serratures; panicles with 3 divisions; stem rough, flaccid. HUDS.

E. bot. 2067.

Stems rather upright; swollen at the joints; 4-cornered, the edges roughish; somewhat hairy, branched: flowering branches opposite. *Leaves* 8, sometimes six in a whirl; sitting, spear-shaped, and between strap and spear-shaped; bare. The terminating panicle divided into three. *Flowers* white, 4-clefted. *Seeds* small, smooth. HUDS. *Leaves* in whirles, from four to five inches distant from each other; bent back; serratures directed towards the point of the leaf, and not bowed back as in the rest of the rough-leaved species. My specimen agrees in every respect except the stem, which is smooth. ST. (*Stems* upright when they meet with support, but weak and flaccid, much branched, leafy, panicked, many-flowered, often quite smooth, sometimes more or less clothed with soft hairs. *E. bot.* E.)

Upright Goose-grass. Upright Marsh Bed-straw. Meadows and wet pastures. [Heydon Common, Norfolk. Mr. BRYANT.]—(In dry hedges at Portslade, Sussex. Mr. W. BORRER. *E. bot.* E.)
P. June—July.

- multu'go. G. Leaves 8 in a whirl, egg-strap-shaped, dagger-pointed; somewhat serrated, greatly expanded; stem feeble; branches greatly expanding.

Fl. dan. 455—*E. bot.* 1673—*Ger.* 967. 4—*Fuchs.* 281—*Lob. ic.* 802. 2—*J. B.* iii. 716. 1—*Lob. obs.* 468. 1—*Ger. em.* 1118. 2—*Pet.* 30. 4—*Matth.* 921.

Stem 4-edged, branched; thickest just above the joints, nearly smooth. *Leaves* from six to eight in a whirl; unequal in size, oblong-egg-shaped, a little hairy on the back and at the edges. *Flowers* very numerous, on fruit-stalks rising from the whirles of leaves; generally two long and two short flowering branches from each whirl. *Blossom* white. *Seeds* 2, smooth; one generally much larger than the other. In a cultivated state it grows quite upright, strong, and three or four feet high.

Madder Goose-grass. White Ladies' Bed-straw. Wild Madder. Great Bastard Madder. Hedges, roughs, and heaths, frequent. (On open chalky hills it is of more humble growth. *E. bot.* E.)
P. June—Aug.

Var. 1. Leaves very entire, bent back; seldom exceeding three or four inches in height. Scop. *Mollugo montana minor*, *Gallio albo similis*. R. Syn. 224. seems at least to comprehend this variety as well as the *G. procumbens*. Malvern Hills. St.

G. Male flowers 3-cleft, on pedicles springing from the tricar'ne. fruit-stalks of the hermaphrodite flowers.

E. bot. 1641-Vaill. 4. 3.

Fruit-stalks bearing three cream coloured flowers curved downwards. HALL. *Leaves* from six to eight; upper surface smooth, keel rough. *Fruit* roughish, beset with a number of minute tubercles, but which do not end in hairs. POLLICH. *Umbels* on fruit stalks, generally two to a whirl, opposite, dividing into three branches; not leafy at the base, each bearing one seed. ST. *Pedicles* sometimes with one leaf at the base. *Florets* sometimes all three, not unfrequently two, though commonly only one hermaphrodite. *Stems* upright, a foot high, or more; not branched. The whole plant very harsh and rough. *Leaves* serrated with strong prickles pointing backwards.

Three-horned Corn Goose-grass. Corned Bed-straw. Galium spurinum. With. Ed. 3 & 4. *G. tricar'ne.* With. Ed. 2. (neither the *Valantia aparinae* of Linn. nor exactly the *G. spurinum* of Huds. or of Linn. Dr. SMITH. E.) Cornfields. Monk Tryston, between Ferrybridge and Selby, on a limestone soil, plentiful, and near Wetherby, Yorkshire. Mr. WOODWARD.—Cornfields, Puckle church, Gloucestershire. Mr. SWAYNE.—(On fields near Carisbrook, Isle of Wight. Mr. TURNER. E.) A. June—July.

G. Leaves mostly 8 in a whirl, rough, dagger-pointed; sca'brum. (JACQ.) furrowed; stem and leaves pubescent. STOKES.

Jacq. austr. 422.

Stems upright, closely beset with very short soft hairs. *Leaves* sometimes seven, those of the branches fewer, beset with soft hairs. *Fruit* smooth. *Stems* above, smooth and shining. JACQ. but in his figure it is represented as beset with hairs, as are my specimens, even to the last subdivisions. No appearance of prickles on the stem or leaves. *Flowering branches* opposite, one always shorter than the other. *Fruit-stalks* smooth. ST. (Dr. SMITH is of opinion that this is not the real *G. scabrum* of Jacquin, but only a hairy variety of *G. mollugo*. E.)

Galium mollugo. var. β. Fl. Brit. *Downy-stalk Goose-grass.* [Hedgerow in a marley soil on the side of Red-House-lane, near Worcester. St.] P. Aug.

vérum.

G. Leaves 8 in a whirl, strap-shaped, furrowed; flowering branches short.

E. bot. 660—*Fl. dan.* 1146—*Kniph.* 6—*Ludw.* 39—*Mill.* 139. 1—*Scheldr.* 61—*Fuchs.* 196—*J. B.* iii. 720. 1—*Trag.* 492—*Dod.* 355. 1—*Lob. obs.* 467. 3—*Ger. em.* 1126. 1—*Park.* 564. 1—*H. ox.* ix. 21. row 2. 1. *Gallium*.—*Matth.* 1131—*Ger.* 967. 1—*Blackw.* 435—*Pet.* 30. 8.

Stem with large joints, cylindrical, scored, a little woolly. *Leaves* smooth, rolled back at the edges; from five to nine in a whirl, but generally eight upon the principal stem. *Blossom* segments greatly expanded. *Styles* cloven more than half way down. *Blossom* yellow.

Yellow Ladies' Bed-straw. *Cheese Rening.* *Petty Muguet.* *Yellow Goose-grass.* Sides of fields and roads, frequent. When within the influence of the sea air it grows extremely small.

P. July—Oct.*

an'glicum.

G. Leaves about 6 in a whirl, spear-shaped, pointed, edged with prickles, reflected; stems wide-spreading, rough with prickles pointing downwards. (HUDSON.)

E. bot. 384—*Kniph.* 10—*Ray Syn* 9. 1.

Stems a foot long, feeble, 4-sided, rough when stroked upwards. *Leaves* seven in a whirl, spear-shaped, dagger-pointed, rough, especially at the edge. *Flowering branches* opposite, short. *Fruit-stalk* smooth, 2 or 3-flowered. LINN. *Stems* one foot to one foot and a half high, spreading, 4-cornered, branched; *flowering branches* opposite. *Leaves* bare, (except at the edge,) sometimes seven in a whirl. HUDS. *Leaves*, the prickly hairs at the hedge pointing forwards, sometimes a few scattered on the surface; those of the *branches* generally in pairs as in Ray's figure. *Branches* rough. *Fruit-stalks* smooth, generally dividing into three, one of them supporting two flowers. ST. (*Fruit-stalks* 2-cleft; *fruit* granulated on the surface. *Fl. Brit.* E.) *Blossom* greenish yellow, smaller than the fruit, which though less smooth than that of the other species in this subdivision, is still not hispid. Linnæus refers the above figure of Ray to his *G. parisiense*, and also cites Tourn. inst. 664 as

* The flowers will coagulate boiling milk. The French prescribe them in Hysterical and Epileptic cases. Boiled in alum water they tinge wool yellow. The roots dye a very fine red, not inferior to madder, and are used for this purpose in the Island of Jura. Pennant, 1772, p. 214. Sheep and goats eat it. Horses and swine refuse it. Cows are not fond of it.—This plant is subject to a disease, in which the stem and branches are set with fleshy balls, about the size of a pea, hollow within, and covered with a purplish skin.

another synonym, but Tournefort tells us his plant had a dark purple blossom, it therefore cannot be the same as our's with a yellow blossom. We therefore rather adopt Mr. Hudson's name and character, leaving the *parisiense* to Tournefort's plant. Mr. Relhan is now satisfied that the plant found on Chippenham Park wall, and in Fl. Cantab. called *parisiense*, is no other than the *anglicum* of Hudson.

Small Goose-grass. Aparine minima. Ray Syn. 225. Tournefort's plant with a dark purple blossom cannot belong to this. As both Hudson and Linnæus refer to the figure of Ray, there can be no doubt but they both speak of the same plant. At Hackney, on a wall. *H. ox. III. p. 333.* RAY.—Sandy ground between Dartford and Northfleet. On a wall at Farningham, Kent. HUDSON.—[On the walls of Binham church, Norfolk. Mr. CROWE.] A. June—July.

(2) *Seeds hispid.*

G. Leaves 4 in a whirl, spear-shaped, smooth, 3-fibred; boreal^e. stem upright; fruit rough with hairs.

Dicks. h. s.—Fl. dan. 1024—E. bot. 105—Kniph. 5—Pet. 30. 7—J. B. iii. 716. 3.

Blossom of a beautiful white, but when dried turning to a dirty yellow. Mr. GRIFFITH. The three strongly marked veins or fibres on the leaves afford a strong character. *Leaves* egg-spear-shaped, four in a whirl, but only two or three at the base of the fruit-stalks. *Blossoms* white, very numerous.

Cross-wort Madder. Cross-leaved Goose-grass, or Bed-straw. Mountains in Westmoreland and Wales. [Near Pooley Bridge, by Ulswater, Cumberland. Near the Ferry at Winander Meer. Mr. WOODWARD.—Banks of the river near Down. Mr. BROWN.—Rocks about Strid, near Bolton Abbey. Mr. WOOD.—Trigiwulcan Rocks; also about half a mile from Llanberris, in the gravel by the side of the second rivulet in the way to Llanrwst. Mr. GRIFFITH.—Near the lower end of Winander Meer, opposite Fell Foot. Mr. JACKSON.] P. July—Aug.*

G. Leaves 8 in a whirl, spear-shaped; keel rought with *Aparine*. prickles pointing backwards; joints woolly.

Curt.—Woodv. 269—Fl. dan. 495—E. bot. 816—Sheldr. 13—Vaill. 4. 4—Dod. 353—Lob. obs. 464. 3. Aparine—Ger. 963. 1—Ger em. 1122—Park. 567—H. ox. ix. 22. row 2. 1. Aparine—Pet. 30. 11—Blackw. 39—Matth. 807—Fuchs. 50—J. B. iii. 713—Trag. 494—Walc.

* The roots afford a red dye for woollens.

TETRANDRIA: MONOGYNIA. Rubia.

Stem 4-cornered, the angles set with prickles pointing backwards. *Joints* woolly at the base. *Leaves* 8 or 10 in a whirl, between strap and spear-shaped, rough above, smooth underneath, the edges and the keel set with prickles pointing backwards. *Branches* opposite. *Leaves* from 4 to 7, or more in a whirl. *Blossom* white. (*Fruit* rough with hairs. E.)

Catchweed, Goose-grass. Cleavers Goose-grass. Hedges, frequent. A. May—Aug.*

(verruco'sum. G. *Leaves* six in a whirl, spear-shaped, with marginal prickles pointing forward; flower-stalks axillary, three-flowered; fruit warty, drooping.

E. bot. 2173.

Root slender, turning reddish when dried, and retaining the cotyledons long at its summit. *Stems* several, somewhat branched, angles rough with reflexed prickles. *Leaves* with marginal prickles all pointing forward, not backward, by which invariable character, and the large pyramidal tubercles that cover the fruit, this species is clearly distinguished from *G. tricornis*. *Blossom* straw-colour. *E. bot.*

Warty-fruited Bed-straw. Valantia aparine. LINN. This plant has been described as above in the Prod. Fl. Græc. but was first accurately ascertained as a native of Britain by Mr. G. DON, who observed it in corn-fields in the Carse of Gowrie, Scotland; Mr. MILLER also finds it near Malton, Yorkshire; and probably in various other situations it may have been confounded with *G. tricornis*. A. June—Aug. E.)

RUBIA. *Bloss.* 1 petal, bell-shaped; *berry* 2-seeded. (*Berries* 2, 1-seeded, SMITH. E.)

tincto'rum. R. *Leaves* annual; stem prickly.

Var. 1. *Anglica.* *Leaves* smooth, shining, deciduous; blossom with 5 divisions.

E. bot. 851—H, ox. ix. 21. 2—Pet. 30. 3.

* The branches are used by the Swedes instead of a soi to strain milk. Young geese are very fond of them. The seeds may be used instead of coffee. The plant is eaten by horses, cows, sheep and goats. Swine refuse it. LINN.—The expressed juice of the stem and leaves, taken to the amount of 4 ounces, night and morning, is very efficacious in removing many of those cutaneous eruptions which are called, although improperly, Scorbutic. It must be continued for several weeks. The *Sphinx Stellatarum*, and the *Sphinx Euphorbiæ*, feed upon the different species of *Galium*.

This plant and its present places of growth are mentioned by Ray and Miller, but it does not seem to accord exactly with any of the Linnæan species, neither can it be Haller's 708. Mr. Hudson referred it to the *R. peregrina* of Linnæus, but in that the leaves are perennial. It is certainly embraced by the specific character of the *R. tinctorum*, but it differs from that in several respects, as appears from an accurate drawing and description obligingly furnished at my request by the Rev. Mr. Swayne, who observes that the flowers have no calyx, that the blossoms have constantly 5 divisions, and 5 stamens. He further remarks that the root is perennial, branched, penetrating deeply into the fissures of the rocks; its outer bark red. *Stems* several, climbing, 4-cornered, the angles set with prickles pointing backwards. *Leaves* spear-shaped, somewhat waved at the edge, even and shining on the upper surface, prickly at the edges and along the mid-rib on the under side, from 3 to 6 in a whirl, but mostly 5. The plant in climbing up the rocks and through the shrubs supports itself by means of the prickles on the angles of the stem and under the margins and mid-ribs of the leaves. It seldom produces more than one perfect seed, perhaps there are not more than two or three instances on any one plant in which both the seeds attain perfection. The whole superficies of the plant does not die in the winter, but some of the old stem remains alive, which puts forth fresh shoots in the spring. The leaves which first appear in the spring are rather elliptical, as represented in the figure of Petiver. Mr. SWAYNE. The uncertain number of leaves in a whirl will hardly permit a specific difference to be founded upon that circumstance, but if the *R. tinctorum* has 4 stamens and a 4-cleft petal, whilst this has always 5, the distinction will be sufficiently obvious. *Flowers* dirty yellow. (Dr. Smith describes the leaves as perennial, generally 4, sometimes 5 in a whirl; and thinks the *Rubia* of Haller 708, is exactly the *R. tinctorum* of Linnæus which has egg-spear-shaped leaves, rough on the upper surface; flowers, often, though not always, 4-cleft, and without any calyx. *Fl. Brit. E.*)

Wild Madder. Rubia peregrina. Huds. *R. sylvestris aspera.* Ray Syn. and Bot. arr. ed. ii. *R. peregrina.* E. bot. *Fl. Brit.* Hedges in Devonshire, near Exmouth. [In the Isle of Wight. St. Wood opposite St. Vincent's Rocks, Bristol. Mr. SWAYNE.] (On Tunbridge Rocks. Rev. Dr. GOODENOUGH.—At Chepstow. *Fl. Brit.*—Rocks on the North side of Penmaen Mawr; and Llandidno Rocks, Caernarvonshire. Mr. GRIFFITH. E.)
P. June—July.

EX'ACUM. *Bloss.* 4-cleft, tube globular: *Cal.* 4 leaves, or with 4 divisions: *Caps.* 2-furrowed, 2-celled, many seeded, opening at the top.

filifor'me. E. Blossoms with 4 clefts; on long fruit-stalks; leaves sitting; stem forked.

E. bot. 235—*Fl. dan.* 324—*Vaill.* 6. 3.

About 3 or 4 inches high. *Blossom* yellow, generally closed. Dr. Smith first removed this plant from the genus *Gentiana*, and very properly, for it always stood as an exception to that. From the size of a pin to 4 inches high. In a sunny day the flower opens fully and is cruciform. It has no similitude to the *Gentians* either in taste or in habit. The leaves are so slender and sit so close to the stem, that they are only discernible on nice inspection.

Least Gentian. Marsh Centory. Gentiana filiformis. Linn. Gravelly places inundated in winter. Marshes in Cornwall, near St. Ives. [In boggy places in Dorsetshire. Dr. FULTENEY. Also not unfrequent in Devonshire in similar situations. Sand banks between St. Blazey Bridge and the Par Sand, Cornwall. On the bogs between Bodmin and Lestwithiel. Mr. STACKHOUSE.] (On Horsham Common, Sussex, abundant. Mr. BORRER, in *B. Guide.* E.) A. July.

LITTOREL'LA. M. and F. flowers on the same plant.

Male. *Bloss.* 4-cleft : *cal.* 4-leaved : *stam.* long.

Fem. *Bloss.* mostly 4-cleft : *cal.* none : *style* long : *seed* a nut.

lacus'tris. L.

E. bot. 468—*Fl. dan.* 170—*Pluk.* 35. 2—*H. ox.* viii. 9. 30—*Giseck.* 21—*Dill. musc.* 81; but the substances on the leaves marked (*a. a.*) are thought to be *Polypes*.

Its flower is that of *Plantago*, but the stamens and pistils being found in different flowers, and its fruit, distinguish it from that genus. The male flower on a stalk, taller than the female. The female flower sitting at the root. *Style* often as long as the stalk of the male flower. LINN. *Fertile flowers* 2, sometimes 3, at the base of the stalk of the barren flower. WOODWARD. *Leaves* rush-like, flattish, convex underneath, (sometimes rough with hairs. Mr. WILLIAMS, in *Fl. Brit.* E.) *Male flower* terminating. RELHAN. This plant is truly amphibious, growing in most of our lakes several feet under water, but it never flowers except when on shore, or in water about one inch in depth. Mr. GRIFFITH.—It is frequent near the margins of many of our Highland lakes, but being generally immersed, seldom flowers. The elongated stamens, which, from their slender make, hang

down, and the style which shooting upwards meets them half way, afford a beautiful illustration of the sexual doctrine. Mr. BROWN.

Plantain Shoreweed. Marshy places in a sandy soil. At Hainford. Mr. CROWE.—On the margins of Oulton Broad by Lowestoft, plentifully. Mr. WOODWARD.—On the bank at the South end of Balla Lake, Merioneth. Mr. WOODWARD.—In a watery lane near Penzance, by Mr. Wenman. Mr. STACKHOUSE.—(Crosby Marsh, near Liverpool. Dr. BOSTOCK.—On the shores of most of the lakes in North Wales. Mr. GRIFFITH. E.)
P. July—Aug.

PLANTA'GO. *Bloss.* 4-cleft, permanent, the border broken back: *cal.* 4-cleft: *stam.* extremely long: *caps.* 2-celled, cut round, superior.

P. Leaves egg-shaped, smooth; stalk cylindrical; spike major. tiled with florets.

Curt.—*Fl. dan.* 461—*E. bot* 1558—*Blackw.* 35—*Woodv.* 14—*Matth.* 479—*Dod.* 107. 1—*Lob. obs.* 162 2—*Park.* 493. 2 & 1—*H. ox.* viii. 15. 2—*Pet.* ii. 4. 1—*Trag.* 225. 1—*Fuchs.* 38—*J. B.* iii. 502—*Ger.* 338.

Stalk nearly 2-edged. Mr. HOLLEFEAR. *Leaves* with 7 ribs. Mr. WOODWARD. *Stalk* from 9 to 18 inches high, the flowering spike about equal in length to the naked part; rather rough with short hairs. *Leaves* with 7 or 9 ribs.

Way-bread. *Great Plantain.* Road sides, very common.
P. June—Aug.

Var. 1. (β Linn.) Leaves three-ribbed.

Tab. ic. 731—*Ger.* 339—*J. B.* iii. 505. 3.

Much smaller than the preceding; *leaves* rough. *Stalk* not more than one inch and a half high; *spike* small in proportion.

Plantago major β . *Fl. Brit.* (Common in corn-fields, Norfolk and Suffolk. Mr. WOODWARD. E.)—[About Shirehamp-ton and Kingsweston, Bristol.]

Var. 2. *toothed.* PETIVER. Leaves with large teeth towards the base. ST.

Pet. 4. 2—*Park.* 494. 5. d.

Var. 3. *Spike* leafy. Flower-leaves disposed in a pyramidal or rose-like form.

Ger. 340. 5.—*H. ox.* viii. 15. 3. *b. c.*—*Park.* 494. 5. *b.*—*J. B.* iii. 503. 1.—*Ger. em.* 420. 4, upper branch—*Pet.* 4. 4, upper branch.

Park. 494. 5. *c.*—*H. ox.* viii. 15. 3. *a.*—*J. B.* iii. 503. 1.—*Pet.* 4. 4, lower branch.

The rose-like and the pyramidal often rise from the same root.

(Ripton, Huntingdonshire. Mr. WOODWARD. E.) On Dudley Lime rocks. Aug.

Var. 4. *panicled.* Stalk branching into a panicle. ST.

Dod. 107. 2.—*Lob. obs.* 162. 4.—*Ger. em.* 420. 6.—*J. B.* iii. 503. 2.—*Park.* 494. 5. *a.*—*Pet.* 4. 5.—*H. ox.* viii. 15. 4.

P. major ♂. Fl. Brit. (Ripton, Huntingdonshire. Mr. WOODWARD. E.)—[Bedingham, near Bungay, Suffolk. Mr. STONE.]*

me'dia.

P. Leaves egg-spear-shaped, pubescent; spike and stalk cylindrical.

Curt. 252.—*Fl. dan.* 581.—*E. bot.* 1559.—*Walc.*—*Cam. epit.* 262.—*Fuch.* 39.—*J. B.* iii. 504. 1.—*Matth.* 480.—*Clus.* ii. 109. 1.—*Dod.* 107. 4.—*Lob. obs.* 162. 3.—*Ger. em.* 419. 2.—*J. B.* iii. 504. 2.—*H. ox.* viii. 15. 6.—*Pet.* 4. 3.—*Ger.* 338. 2.—*Trag.* 226. 1.—*Park.* 493. 3.

Stalk from 5 to 10 inches high; cylindrical. Flowering spike shorter than the naked part of the stalk. Leaves mostly 5-ribbed, often toothed, spear-egg-shaped, or quite egg-shaped; sometimes variegated with pale yellow stripes.

Lamb's Lettuce. *Hoary Plantain.* Road sides, and pastures, mostly in chalky or marly soil. [The variegated kind at Hawford Bridge, near Worcester. ST.] P. June—Aug.

lanceola'ta.

P. Leaves spear-shaped: spike nearly egg-shaped, naked: stalk angular.

E. bot. 507.—*Curt.* ii. 15.—*Fl. dan.* 437.—*Blackw.* 14.—*Walc.*—*Dod.* 107. 3.—*Lob. obs.* 163. 1.—*Ger. em.* 422. 1.—*Park.* 496. 1.—*H. ox.* viii. 15. 9.—*Pet.* 4. 6.—*J. B.* iii. 505. 1.—*Trag.* 225. 2.—*Ger.* 341. 1.—*Matth.* 481.—*Anders.*

Stalk about a foot high. Root appearing as if bitten off. Spike 1 inch long, or not so much. Leaves strap-spear-shaped, ribs 5 to 7; often toothed at the base, but in maritime situations toothed all along the edges. Anthers white. The stalks continue to

* Sheep, Goats, and Swine eat it. Cows and horses refuse it. The common people apply the green leaves to cuts.

grow after the flowering is over, and sometimes shoot out to the length of 2 feet or more.

Ribwort Plantain. Ribgrass. Pastures very common.

P. June.

Var. 2. Leaves narrow, 3-ribbed. (Dr. STOKES.)

Ger. prov. 12—*Ger.* 339. 4—*J. B.* iii. 505. 2—*Park.* 496. 3—*Pet.* 4. 7.

Mountainous and barren places.

Var. 3. *foliosa*. Summit of the stalk surrounded with leaves longer than the spike. Mr. WOODWARD.

Ger. 341. 2—*J. B.* iii. 506. 1—*H. ox.* viii. 15. 10.

Near Leeds. St.—Ripton, Huntingdonshire. Mr. WOODWARD.

Var. 4. Spike with 2 or 3 heads. LEERS.

Clus. ii. 110—*J. B.* iii. 506. 2—*H. ox.* viii. 16. 10—*Pet.* 4. 8.

Isle of Thanet. RAY.*

P. Leaves strap-shaped, mostly entire; woolly at the base; *marit'ima*. spike and stalk cylindrical.

Fl. dan. 243—*E. bot.* 175—*Dod.* 108—*Lob. obs.* 163. 2—*Ger. em.* 423. 3—*Park.* 498. 1—*H. ox.* viii. 17. 34—*Ger.* 343. 3—*J. B.* iii. 511. 3—*Ger. em.* 425. 1.

Root wood-like, inversely conical at the crown: *Stalk* 5 or 6 inches high. *Spike* 1 to 1 inch and a half long, bent at a right angle before flowering. *Leaves* fleshy, convex on the lower, channelled on the upper surface, generally entire, but sometimes with a few minute teeth. *Floral-leaves* keeled. *Blossom*, tube woolly. *Anthems* yellow.

Sea Plantain. Sea coast. (North Shore, near Liverpool. Dr. BOSTOCK. E.)—[Also near Barnard Castle, 35 miles from the sea. Mr. ROBSON.] P. June—July.

* Linnæus says it is eaten by horses, sheep, and goats, and that cows refuse it; but Haller attributes the richness of the milk, in the famous alpine dairies, to this plant and to the *Alchemilla vulgaris*.—The total absence of this plant in marshy lands, is a certain criterion of the wretched quality thereof. In proportion as such soils are meliorated by draining, this plant will flourish and abound. It is often sown and cultivated for pasturage, but does not answer the purpose well without a mixture of clover or other grasses. Sheep will eat it either green or dried, provided it be well gotten. Rev. S. DICKENSON. —When it grows detached from other plants, as it frequently does by the sides of foot-paths, I have never seen cattle touch it, but they certainly do eat it mixed with other herbage.

Var. 2. *narrow-leaved*. Leaves thread-shaped.

A much smaller plant than the preceding, and flowering earlier. I found it in the Isle of Wight, and going out of blossom in the beginning of June. *Leaves* about 2 inches long. *Stalk* cylindrical, slender, not scored, 4 inches high. *Spike* 1 inch long, cylindrical, not closely crowded with florets.

Var. 3. *flat-leaved*. Leaves flat, ribbed, very sparingly toothed.

J. B. hist. iii. 506. 2, well represents the leaves, but the spikes are too short.

Leaves 5 inches long, flat, 5-ribbed. *Stalk* about 5 inches high, cylindrical. *Spike* 2 inches long, cylindrical, bent at a right angle before flowering. *Floral-leaves* with a mid-rib, but not keeled.

[Near the Bristol channel. Mr. SWAYNE. Sea coast, Yarmouth, Mr. WOODWARD.]

Var. 4. *mountain*. Huds, var. γ .

J. B. hist. iii. 506. 2.

Smaller than either of the above varieties. The leaves from 2 to 3 inches high, one eighth of an inch wide.

[On Cwn Idwell. June, 1798. Mr. GRIFFITH.]

Coro'nopus. P. Leaves strap-shaped, toothed; stalk cylindrical. *Fl. Suec.*
—Leaves between winged and toothed. *Hort. Cliff.*

Fl. dan. 272—*E. bot.* 892—*Pet.* 4. 10—*Fuchs.* 449—*Trag.* 99—*J. B.* iii. 509—*Blackw.* 460—*Matth.* 493—*Dod.* 109. 1—*Lob. obs.* 239. 2—*Ger.* 427. 1—*Park.* 502. 1—*H. ox.* viii. 17. 31.

Spike truly nodding before it flowers. LINN. *Leaves* wing-cleft, the segments very unequal; lying on the ground in form of a star. *Stalk* from 4 to 7 inches high. *Spike* 1 and a half to 2 inches long, cylindrical. *Calyx*, segments lapping over each other, deeply divided, fringed at the outer edge. *Anthers* terminated by a small spear-shaped transparent membrane.

This plant varies very much both in the size and clefts of the leaves, in the height of the stalk, and the length of the spike; but the membrane terminating the anthers is constant.

Star of the Earth. Hartshorn. Buckthorn Plantain. Gravelly soil. Sea shore, frequent. A. June—Aug.

Var. 2. Leaves more deeply divided, and more hairy. Heads short, and lax. BLACKST. p. 77.

Between Dartford and Greenhithe. [Near the Bristol Channel. Mr. SWAYNE,—Dawlish, Devonshire.]

Var. 3. Leaves strap-shaped, very entire, hairy. Spike roundish. HUDS.

Very much resembles *Lob. ic.* 439. RAY; which is *P. subulata*. LINN.

Dry meadows on the sea coast. HUDSON.—Banks of the river near Yarmouth, and near Sheerness, in Sheppey. RAY.

Var. 4. Leaves between serrated and toothed. ST.

Pet. 4, 9—*Pluk.* 103. 5.

[Found on the north coast of Cornwall, by Mr. WATT.]

In its smaller state, and with spikes of flowers scarcely longer than broad, (var. 1.) it has been very generally supposed to be the *Pl. Læfingii*. but that plant, according to Læfing's account, has smooth floral-leaves, whereas in ours they are always hairy, especially on the keel. The root-leaves, he says, are never wing-cleft, but in those of ours whose spike most resembles the other, they are almost always so.

CENTUNCULUS. *Cal.* 4-cleft: *bloss.* 4-cleft, expanding: *stam.* short: *caps.* 1-celled, cut round.

C.

min'imus.

Dicks. h. s.—E. bot. 198—*Curt.* 185—*Fl. dan.* 177—*Vail.* 4. 2—*Mich.* 18. 2.

Blossom minute, white, (or reddish; sitting. *Fl. Brit. E.*) in the bosom of the leaves. LINN. Continuing and adhering like a veil to the point of the capsule, never expanding but when the sun shines strongly upon it. CURT. *Plant* very small, branched, forked. *Leaves* sometimes opposite towards the bottom; egg-shaped, pointed, smooth, fleshy. *Flowers* solitary. ROTH. *Plant* hardly an inch high. (*Seeds* many. E.)

Bastard Pimpernel. *Pimpernel Chaff-weed.* Moist sandy ground, and on commons. [Salt marshes and meadows near the sea side. Newton Cartmel, common. Mr. HALL.—Gamlingay Bogs. Rev. R. RELHAN.—Blithfield, Staffordshire. Hon. Mr. BAGOT.—Links of St. Andrews. Mr. BROWN.]—(On Hounslow Heath. Sir W. WATSON.—Ashford Common. CURTIS.—Iver Heath, in abundance. Rev. Dr. GOODENOUGH. E.)

A. June—July.

SANGUISOR'BA. *Bloss.* 4-cleft: *germen* betwixt the calyx and the blossom.

S. Spikes egg-shaped.

officina'lis.

Kniph. 4—*Ludw.* 94—*Fl. dan.* 97—*E. bot.* 1312—*Fuchs.* 788—*J. B.* iii. 120—*Ger.* 889. 2—*Pet.* 4. 11—*Clus.* ii. 197. 3—*Dod.* 105. 2—*Lob. obs.* 412. 4—*Ger. em.* 1045. 2—*Park.* 582. 3—*Matth.* 1033—*H. or.* viii. 18. 7.

A hard woody plant, from 1 and a half to 2 feet and a half high. *Leaves* winged; wings egg-oblong, serrated, about 4 pair, and an odd one at the end. *Blossom* beneath; segments mulberry-coloured, tube white, fleshy, inclosing the germen; a glandular ring closely embracing, but not adhering to the style. *Petals* when old, so slightly adhering at the base, that it might almost be considered as a 4-petaled blossom. *Seed-vessel*, besides the coat formed by the permanent tube of the blossom, there is another egg-shaped seed-vessel, including 1 seed. *Upper florets* either without stamens or with only an imperfect one.

Wild Burnet. *Burnet Bloodwort.* *Meadow Burnet.* Moist pastures, especially on marly or calcareous soil. Limestone pastures in the North, very common. Have not found it farther to the S. E. than Ripton, Huntingdonshire. Mr. WOODWARD. (Meadows at Bromham, Fenlake, &c. Bedfordshire, ABBOT. E.) Marly soils about Stafford, not uncommon. P. June—Aug.

EPIME'DIUM. *Bloss.* 4 petals: *nectaries* 4; leaning; *cal.* deciduous: *seed-vessel* a pod.

alpi'num. E.

E. bot. 438—*Kniph.* 10—*Mill. ic.* 133—*Dod.* 599—*Lob. obs.* 176. 1—*Ger. em.* 480—*Park.* 1366, *upper fig.*—*J. B.* ii. 391.

(*Stem* none. *Flowers* drooping. *Calyx* falling before the blossom fully opens, greenish, 4-leaved. *Pod* 2-valved, many seeds. *Fl. Brit. E.*) Near a foot high. *Leaves* heart-shaped, on leaf-stalks. *Blossom* mulberry red, with a yellow stripe.

Barren-wort. In Bingley Woods, 6 miles from W. Brierley, Yorkshire, not sparingly. RICHARDSON, in BLACKST. 19.

P. June—July.

This plant does not appear to have been known to Mr. Ray, otherwise than as a native of Austria, &c. Its creeping roots enable it to multiply apace, and when once in possession of the soil, it is not easily eradicated, though if the wood be destroyed where Mr. RICHARDSON found it so plentifully, it may have disappeared, for it seems to require shady and damp situations. (Mr. HALLSTONE, in Whitaker's Craven, observes that it certainly is not now to be found in Bingley Woods. E.)—[Since the above was written, Mr. ROSSON has sent me a specimen which was gathered on Skiddaw in July, 1795. I have also specimens

from the Rev. T. GISBORNE, whose plants were discovered in 1787 in a very wild part of Cumberland called Carrock Fell.]—(On Saddleback, near Threlkeld. Mr. RUDGE, in *Bot. Guide. E.*)

COR'NUS. *Involucrum* generally 4-leaved: *petals* 4, superior: *drupa* succulent; beneath; 2-celled; hard; solitary.

C. Branches straight, leaves egg-shaped, green on both sanguine sides; tuft flattened. L'Herit.

E. bot. 249—*Fl. dan.* 481—*Matth.* 260—*Lob. obs.* 592. 1—*Park.* 1521. 3—*Ger.* 1283—*Dod.* 782. 2—*Ger. em.* 1467—*Trag.* 1004.

Tuft of flowers divided into 5 parts, and these again subdivided. Scop. *Leaves* egg-spear-shaped, with strong nerves. Blossom white. Berries purple. *Leaves* blood red in Autumn.

Dogberry tree. Hounds berry. Prick wood. Gatten tree. Female Cornel. Woods and hedges, not uncommon. S. June.*

C. Herbaceous, with 1 pair of branches.

E. bot. 310—*Fl. dan.* 5—*Penn. Scotl.* ii. 39. at p. 314—*Dill. Suecica. elth.* 91—*Fl. lapp.* 5. 3—*Clus.* 1. 60. 1—*Ger. em.* 1296. 5—*Park.* 1461. 4—*J. B.* ii. 109. 1—*Ger.* 1113.

Stem 4-cornered, rarely branched; forked at top. *Leaves* oval, lower ones rounder; entire, opposite. *General involucrum* 4-leaved, inclosing many flowers; *little leaves* white. *Flowers* dark purple, very small, in an undivided umbel. *Fruit-stalk* solitary, terminating, rising from the fork of the stem. The 4 leaves of the involucrum have such a resemblance to petals, that it is easy at first sight to imagine it a compound flower. Roth. *Berries* red.

Dwarf Honeysuckle. Dwarf Cornel. Cornus herbacea. HUDS. Hills in the North. (Said to have been first discovered by Dr. PENNY, who flourished nearly three centuries ago, on the Cheviot Hills.—Hole of Horcum near Saltergate, Yorkshire. Mr. TRAVIS, E.)—Pentland Hills, near Edinburgh. Dr. HOPE. P. June—July.

* The wood is very hard and smooth, fit for the purposes of the turner. The leaves change to a blood red in the autumn. The berries are bitter and styptic; they dye purple. Horses, sheep, and goats eat it. Swine and cows refuse it.—(M. Margueron, of the Military Hospital at Strasburgh, has discovered a new kind of oil in the berries of the Dogwood. The berries are laid in a heap to soften and heat; after which process by pressure a fat viscous oil may be procured of a clear green colour, without smell, or taste, and very well adapted for either sallads, or lamps, *Month. Mag.* v. 12. p. 54. E.)

PARIETARIA. Fem. florets mixed with hermaphrodite on the same branch : *calyx* 4-cleft : *bloss.* none : *seed* 1, superior, lengthening.

officinalis. P. Leaves spear-egg-shaped; fruit-stalks forked; cup of 2 leaves.

E. bot. 879—*Ludw.* 115—*Walc.*—*Ger.* 261—*Fl. dan.* 521—*Curt.* 233—*Woodv.* 142—*Pet.* 8. 1—*Fuchs.* 277—*J. B.* ii. 976. 2—*Gars.* 441—*Lonic.* i. 137. 1—*Cam. epit.* 849—*H. ox.* v. 30. row 3. 1—*Matth.* 1113—*Dod.* 102—*Lob. obs.* 130; *ic.* i. 258. 1—*Ger. em.* 331—*Park.* 437—*Blackw.* 156—*Trag.* 193.

(*Involucrum* 7-cloven, 3-flowered, all the flowers fertile; females in the centre. A plant impatient of cold. *Fl. Brit. E.*) *Stems* reddish. *Blossom* greenish white. *Anthers* if touched when ripe with the point of a needle, burst, and throw out their pollen with considerable force.

Common Pellitory of the Wall. On old walls and amongst rubbish. P. May—Sept.*

URTICA. Flowers male and female apart : *calyx* 4-leaved : *bloss.* none.

Male, *nectary* in the centre; glass-shaped.

Fem. *Cal.* 2, opposite leaflets very small : *summit* hairy : *seed* 1, egg-shaped, shining.

(1) *Male and Female flowers on distinct plants.*

dioica. U. Leaves opposite, heart-shaped; bunches in pairs.

Woodv. 146—*Fl. dan.* 746—*Blackw.* 12—*E. bot.* 1750—*Fuchs.* 107—*J. B.* iii. 445. 2—*Trag.* 2. 1—*Ger.* 570. 2 and 4—*Gars.* 637—*Lonic.* i. 108. 2—*Matth.* 1126—*Dod.* 151. 2—*Lob. obs.* 281. 1; *ic.* i. 521. 2—*Ger. em.* 706. 2—*Park.* 441. 3—*H. ox.* xi. 25, row 2. 1—*Pet.* 1. 9.

(Three feet or more in height, the whole plant pubescent, and clothed with stinging bristles. *Flowers* generally dioicous, sometimes monoicous. *E.*)

* This plant was formerly in repute as a medicine, but it does not seem to possess any remarkable qualities.—It is asserted that the leaves strewed in granaries destroy the Corn Weevil.—It contains, I have been informed, a considerable quantity of nitre, and that in making an extract from it, the mass has taken fire. The *Nitraria* also contains the same salt, and is said not to flourish unless nitre is mixed with the soil in which it grows. Dr. STOKES.

Common Nettle. Ditch banks, and amongst rubbish.

P. July.*

(2) *Male and female flowers on the same plant.*

U. Leaves opposite, egg-shaped, serrated; fertile catkins pilulifera. globular.

E. bot. 148—*Mill. ill-Kniph.* 9—*Trag.* 3. 2—*Pet.* 1. 11—*Blackw.* 321. 1—*Fuchs.* 106—*J. R.* iii. 445. 1—*Matth.* 1125—*Ger.* 570. 1—*Dod.* 151. 1—*Lob. obs.* 281. 2; *ic.* i. 522. 1—*Ger. em* 707. 1—*Park.* 440. 1—*H. ox.* xi. 25. 5—*Lonic.* i. 109. 1—*Gars.* 638.

(Plant two feet high, branched, all over rough with very acrid, poisoned bristles. Stem blueish. Calyx of the males expanding, 4-leaved; of the females 2-leaved, concave, closed, rough on the outside. Summit pubescent, sitting. Seed solitary, naked, brown, shining. *Fl. Brit. E.*) When growing very close to a wall it is frequently taller and slenderer, and the leaves generally smaller and egg-shaped, when more distant the plant is shorter and stronger, and the leaves larger and heart-shaped. **WOODWARD.**

Roman Nettle. Rubbish. Yarmouth, and at Aldborough, Suffolk. *R. Syn.*—(Formerly in the streets of Romney, but now said to be extirpated; though still to be found a little south of Lyd church yard. **DILLWYN.**—About Lowestoft and Bungay, Suffolk. *Fl. Brit.* In a shady ditch at Velinvrán, Cornwall. **BORLASE.**—Ballast Hills, Sunderland. **Mr. WINCH,** in *Bot. Guide.*—On the north side of Harwich church, near the steeple, and in a meadow on the west side of the gate, plenti-

* The stings are very curious microscopic objects: They consist of an exceedingly fine pointed, tapering, hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed it readily punctures the skin, and the same pressure forces up an acrimonious fluid from the bag, which instantly rises into the wound, and produces an effect that most have experienced.—The stalks may be dressed like Flax or Hemp, for making Cloth or Paper.—The plant has formerly been used as an astringent, but is now disregarded.—A leaf put upon the tongue, and pressed against the roof of the mouth, is efficacious in stopping a bleeding at the nose.—Paralytic limbs have been recovered by stinging them with Nettles.—The young shoots are gathered early in the spring to boil in broth or gruel. Cows eat the leaves when they are a little withered. The leaves are cut to pieces to mix with the food of young Turkeys, and other Poultry. Cows, horses, sheep, goats and swine refuse them. Asses are fond of it, and cows eat it in hay. **St.** It gives nourishment to many species of moths. **LINN.**—(Woollen stuffs may be dyed a beautiful and permanent green, with the juice of Nettles only, as practised by M. Kalugin, of Moscow. The root has been considered diuretic; the roots boiled with alum will dye yarn a yellow colour. A decoction of the young plant bottled, with the addition of salt, will coagulate milk. *Month. Mag.* v. 28. p. 462. *E.*)

fully. DALE.—In several parts of Canvey Island, Essex. BLACKSTONE. ditto. E.)—[Under walls at Yarmouth and elsewhere on the coast, frequent. Mr. WOODWARD.]

A. June—Aug.

u'rens.

U. Leaves opposite, oval; stem branched.

Fl. dan. 739—*E. bot.* 1236—*Ger.* 570. 3—*Matth.* 112—*Dod.* 152—*Lob. obs.* 282. 1; *ic.* i. 522. 2—*Ger. em.* 707—*Park.* 440. 2—*Pet.* 1. 10—*Gars.* 637. 1—*Fuchs.* 108—*J. B.* iii. 446—*H. ox.* xi. 25. row 2. 4—*Trag.* 3. 1.

(The plant pale green, covered with stinging bristles.—*Sheath-scales* small, bent back. *Leaves* three to five, ribbed. *Clusters* nearly simple. E.)

Lesser Nettle. Rubbish, cultivated ground. A. July—Sept.*

VIS'CUM. Male and Female flowers on different plants.

Male. *Calyx* none: *bloss.* with 4 divisions or petals: *filam.* none: *anthers* fixed to the petals.

Fem. *Calyx* a little bordered: *petals* 4, superior: *style* none: *berry* pulpy, 1-celled, 1-seeded: *seed* heart-shaped.

al'bum.

V. Leaves spear-shaped, blunt; stem forked; spikes axillary.

E. bot. 1470—*Mill. ill-Sheld.* 20—*Woodv.* 270—*Blackw.* 184—*Kniph.* 1—*Fuchs.* 329—*Lon.* i. 55. 2—*Matth.* 806—*Cam. epit.* 555—*Trag.* 949—*Dod.* 826—*Lob. obs.* 361. 1; *ic.* i. 636. 2—*Ger. em.* 1350. 1—*Park.* 1393. 1—*Gars.* 628—*Ger.* 1168. 1.

(*Stem* very much branched, forked, and jointed; cylindrical, smooth, pale greenish colour. *Leaves* the colour of the stem, opposite, tongue-shaped, very entire, smooth, leathery. *Spikes* axillary, sitting, few-flowered. *Flowers* yellowish green, inserted in a common fleshy receptacle. *Berries* the size of a pea, globular, pearly, filled with a very slimy and sweetish juice. *Fl. Brit. E.*)—A singular parasitical evergreen shrub. The

* The leaves are gathered and cut to pieces, to mix with the food of young turkeys.—Cows, horses, sheep, goats and swine refuse it. LINN.

barren plant opposite to the *fertile* one. LINN. The *root* insinuates its fibres into the woody substance on the tree on which it grows. *Blossom* greenish white. *Berries* whitish.

White Misseltoe. Missel. Mostly on Apple trees, also on the Pear, Hawthorn, Service, Oak, Hasel, Maple, Ash, Lime-tree, Willow, Elm, (White Beam, Purging Thorn, Quicken-tree, Crab-tree, White Thorn, &c. Rarely on the Oak. HUNT. *Evel.* Very rare in the northern counties, growing only at Lithe, near Kendal. MR. GOUGH. In Worcestershire, Herefordshire and the more southern counties, very common both in orchards and hedge-row fruit trees. E.) S. May.*

HIPPO'PHAE. Male and Fem. flowers on different plants: *bloss.* none.

Male. *Calyx* 1-leaf, 2-lobed.

Fem. *Calyx* 1 leaf, tubular: *berry* superior, 1-celled: *seed* hard, shining.

H. Leaves spear-shaped.

Rhamnoi'des.

Fl. Ross. i. 68—*E. bot.* 425—*Cam. epit.* 81—*J. B. i. b.* 33—*Dod.* 755. 1—*Fl. dan.* 265—*Gies.* 38—*Matth.* 156—*Lon.* ii. 8. 2—*Clus.* i. 110. 1—*Lob. obs.* 598. 3; *ic.* ii. 180. 1—*Ger. em.* 1334. 2—*Park.* 1006. 1.

Shrub eight feet high. *Branches* widely spreading, straight, stiff, thorny at the ends; the *lesser* numerous, scattered, short, expanding. STOKES. *Leaves* strap-spear-shaped, very entire, green above, with whitish scales, white underneath, with a strong prominent mid-rib, which has a corresponding furrow

* Birdlime may be made from the berries and from the bark. The Misseltoe Bird, the Fieldfare, and the Thrush eat the berries, the seeds of which pass through them unchanged, and along with their excrements adhere to the branches of trees, where they vegetate. Some authors observing that the roots are always inserted on the under side of the branches, deny this method of propagation; but the rains will soon wash them into that situation, though it is highly probable that they first fell upon the upper side of the branch. No art hath yet made these plants take root in the earth. Sheep eat it very greedily, and it is frequently cut off the trees for them in hard weather. It is said to preserve them from the rot. MR. HOLLEFAR. If the berries when fully ripe, be rubbed on the smooth bark of almost any tree, they will adhere closely and produce plants the following winter. In the garden of Mr. Collins of Knaresborough, are many large plants of it produced in this manner on the dwarf Apple-tree. HUNT *Evel.* It was formerly in great repute as a remedy for Epileptic and other complaints; but it is now very much disregarded; and indeed its sensible qualities promise but little.—(Of the druidical and superstitious uses of this plant, some curious particulars may be found in Pliny's Natural History. E.)

on the upper surface, edges usually somewhat bent back. **WOODWARD.** *Flowers* solitary, appearing before the leaves. *Male flowers* below the leaves, between a branch and a bud; *female flowers* sitting in the bosom of the lowermost leaves. **LINN.**

Sea Buckthorn. *Common Sallow-thorn.* Sea shore, in sand. Lindley coast, Lincolnshire; Sandwich, Deal and Folkstone, Kent. Isle of Sheppey. [Cley and Sherringham Cliffs, Norfolk. **Mr. CROWE.** Between Yarmouth and Winterton. **Mr. WOODWARD.**] (Cliff between Whitby and Lyth, Yorkshire. **Mr. TRAVIS.** E.) S. March—May.*

ALCHEMILLA. *Calyx* 8-cleft: *bloss.* none: *seed* 1 or 2, inclosed by the calyx.

vulgaris.

A. Leaves gashed, plaited, lobed.

E. bot. 597—*Abbot. Fl. Bed. p.* 36—*Ludw.* 176—*Fl. dan.* 693—*Blackw.* 72—*Matth.* 1177—*Trag.* 512—*Fuchs.* 612—*J. B.* ii. 398 (*i*)—*Dod.* 140. 2—*Ger. em.* 949—*Pet.* 9. 9—*Kniph.* 3—*Clus.* ii. 208. 2—*Lob. obs.* 378. 3—*Park.* 538—*H. ox.* ii. 20. row 3. 1—*Pet.* 9. 10—*Ger.* 802—*Mill.* 18. 2.

Flowers forming a kind of umbel, the *General involucre* being a leaf which entirely surrounds the stalk, but the *Partial involucre* goes only half way round. *Leaves* cloven generally into seven lobes, the lobes serrated. *Leaf-stalk* sending a rib along the middle of each lobe of the leaf. *Seeds* generally only one, but sometimes two in each seed-vessel. *Flowers* yellowish green.

Bearsfoot. *Common Ladies' Mantle.* Meadows and pastures, frequent. P. June—Sept.†

* Cows refuse it; goats, sheep and horses eat it. The berries are very acid, with an austere vinous flavour, and the fishermen of the gulph of Bothnia prepare a rob from them, which added to fresh fish imparts a very grateful flavour. In sunny sandy situations it is planted for hedges. **LINN.**—(This shrub is often cultivated in gardens for the beauty of its foliage, but never perfects its berries in such situations. *Fl. Brit.* E.)

† The whole plant is astringent. In the province of Smolandia, in Gothland, a tincture is made from the leaves, and given in spasmodic or convulsive diseases. Horses, sheep, and goats eat it. Swine refuse it. Cows are not fond of it. (The Rev. S. DICKENSON gives the following curious account of its pernicious effects on Cows.—“Being lately on a visit at Somerford, Mr. Moncton requested me to examine the herbage of a meadow near the river Penk, in which he had the misfortune, a few years ago, to have five milking cows die suddenly at once, and several more were with difficulty recovered. The symptoms of the disease, which he attributed to some noxious plant, were irremediable costiveness and ob-

Var. 2. Leaves pubescent. HUDS.—(A more silky and elegant plant. *Fl. Brit. E.*)

Pluk. 240. 2—*Barr.* 728—*Mill.* 18. 1.

Alchemilla alpina hybrida α. LINN. *Sp. Pl.* who supposes it to be the product of the seed of the *A. alpina*, impregnated by the pollen of the *A. vulgaris*.—(*A. vulgaris* β. *Fl. Brit. E.*)

On mountains.

P. July.

A. Leaves with finger-like divisions, serrated.

alpina.

Fl. dan. 49—*E. bot.* 244—*Kniph.* 5—*Munting.* 90—*Lob. adv.* 307. 1—*Pet.* 9. 11—*Barr.* 756—*Park.* 394. 3—*J. B.* ii. 398. (f) 1—*Clus.* ii. 108. 1—*Ger. em.* 988. 5—*Ger.* 837. 5—*H. ox.* ii. 20. row. 2. 3.

Leaves of a shining white underneath; divided into seven little leaves, and serrated only at the ends. LINN. *Little leaves* sometimes 5, *those of the stem leaves* 3. WOODWARD. *Flowers* greenish.

Alpine Ladies' Mantle. Cinquefoil Ladies' Mantle. Mountains in the North. Ulswater, near Penrith. RAY. [Rocks in Borrowdale, near Keswick, Cumberland. Mr. WOODWARD. —Near Buckbarrow Well, in Long-sleadale, Westmoreland. Mr. JACKSON.]

P. July.

(A. Leaves flat, 3-lobed; lobes cut into 2 or 3 clefts. E.) *arvensis*.

E. bot. 1011—*Fl. dan.* 973—*Col. ecphr.* 146—*Pet.* 9. 12—*H. ox.* ii. 20. row 3. 4—*Lob. adv.* 324—*Ger. em.* 1594—*J. B.* iii. p. 2. 74. 3—*Park.* 449.

(*Calyx* pitcher-shaped, angular: *Seeds* sometimes two, *Fl. Brit. E.*) *Calyx* 8-cleft; the *alternate segments* exceedingly small, but always present. *Seed* one, never two; in those which I examined. LEERS.—*Stems* trailing, leafy. *Leaves* hairy. *Flowers* axillary; small, greenish white.

Field Ladies' Mantle. Parsleypiirt. Aphanes arvensis. With. Ed. 4. Cornfields, and dry gravelly lands.

A. May—Aug.*

structions in the bowels. Upon examination I found a very unusual abundance of *Alchemilla vulgaris* in every part of the field; and am inclined to believe this plant the cause of the fatality, as it is known to be of a very astringent quality. It was the aftermath the herd depastured; and the survivors, upon being introduced into the same field the summer following, were immediately affected with similar symptoms, but removed in time to prevent the fatal consequences; since which Mr. Moncton has never hazarded the depasturing of it by neat cattle." E.)

* (It was formerly thought serviceable in cases of gravel and stone. *E. bot. E.*)

DIGYNIA.

BUFFO'NIA. *Cal.* 4-leaved : *bloss.* 4 petals : *caps.* 1 cell ; 2 seeds.

tenuifo'lia. B.

E. bot. 1313—*Magn. hort.* 15—*Pluk.* 75. 3.

Stem cylindrical, upright, jointed. *Branches* alternate. *Leaves* two at each joint of the stem. *Flowers* at the base of the leaves ; white.

Slender Buffonia. Hounslow Heath. Sea coast, near Boston, Lincolnshire. A. HUDS. P. LINN. May—June.

(Sir. J. Banks and Dr. Smith doubt whether this plant be really indigenous, the named habitats having been unproductive for some time past. E.)

BET'ULA. Male and Female flowers on the same plant : *cal.* 1 leaf, with 3 or 5 clefts : *bloss.* with 4 divisions.

Male. *Cal.* 3-flowered.

Fem. *Cal.* 2-flowered : *seeds* 2 or 3.

al'ba.

B. Leaves triangular-spear-shaped, acute ; smooth, doubly serrated.

E. bot. 2198—*Hunt. Evel.* 225 ; i. 218. *ed.* II.—*Kniph.* 12—*Gars.* 172. 1—*Dod.* 839. 2—*Ger. em.* 1478—*Lob. obs.* 607. 2 ; *ic.* ii. 190. 2—*Park.* 1400. 8—*Matth.* 142—*Blackw.* 240—*Ger.* 1295—*J. B.* i. b. 149—*Trag.* 1113.

(*Bark* snowy white, with a paper-like epidermis. *Leaves* alternate, having leaf-stalks egg-trowel-shaped, unequally serrated, rather pubescent underneath, in autumn changing to a golden colour. *Seeds* winged. *Fl. Brit. E.*)—*Branches*, the lesser deep chesnut coloured. *Male catkins*, scale tipped with brown, with smaller scales fixed to the centre. *Blossom* egg-shaped, concave, green.

Var. 1. Branches upright, stiff, straight.

Var. 2. Branches pliable, pendant ; leaves smooth.

Weeping Birch. *B. pendula.* Roth. Gmelin Syst. veg.

Birch-tree. *Birk.* Woods and moist hedges.

T. April—May.*

* It is liable to a disease in its branches, which causes it to send out a very great number of shoots in the middle of a branch, which being grown to some length, at a distance much resembles a

B. Fruit-stalks branched, wedge-shaped, very blunt; leaves roundish, glutinous; veins underneath woolly at the base.

E. bot. 1508—*Matth.* 140—*Ger.* 1294—*Clus.* i. 12. 2—*Lob. ic.* ii. 191. 1—*Ger. em.* 1477. 2—*Park.* 1409—*Gars.* 138—*Clus.* i. 12. 1—*Dod.* 839. i.—*Ger. em.* 1477. 1—*Hunt. evel.* p. 240; i. p. 233. ed. II—*Trag.* 1084.

Leaves nearly circular, clammy, serrated. *Male catkin* cylindrical, deep mulberry colour. *Segments* of the blossom unequal. *Female catkin* egg-shaped. *Style* purplish red.

Alder. *Owler.* Near water. T. Feb.—Mar.*

tree full of Rooks nests; the leaves upon those shoots are downy and soft. It grows in all kinds of soil, but best in shady places. It bears cropping. It is hurtful to pasturage. The wood is firm, tough, and white: Women's shoe-heels, and packing boxes are made of it. It is planted along with hasel to make charcoal for forges. In the northern parts of Lancashire, the slender twigs are formed into besoms for exportation. *Penn. tour.* The leaves afford a yellow dye. The bark is extremely useful to the inhabitants of the north of Europe; they make hats and drinking cups of it in Kamschatka. The Swedish fishermen make shoes of it. The Norwegians cover their houses with it, and upon this cover, they lay turf three or four inches thick. Torches are made of the bark sliced and twisted together. It abounds with a resinous matter that is highly inflammable. If a hole is bored into the tree when the sap rises in the spring, a sweet liquor distils from it, which properly fermented, with the addition of sugar, makes a pleasant wine.—Horses, cows, goats and sheep eat it. Swine refuse it. It furnishes food to many kinds of moths.—(The beautiful *Agaricus muscarius*. var. 4, seems to delight in the shade of the Birch-tree. The most elegant varieties of this tree, may be observed to the utmost advantage in the romantic vale of the Llugwy, near Bettws, North Wales. E.)

* It flourishes best in low marshy situations, in which it is frequently planted to make hedges. It will not live in a chalky soil. It is easily propagated by seeds, but not by slips or cuttings. Grass grows well beneath its shade. The wood is soft and brittle; endures a long time under water, and therefore is used for pipes; and to lay under the foundations of buildings situated upon bogs. Women's shoe-heels, ploughmen's clogs, cogs for mill wheels, and various articles of the Turner are made of it.—The bark yields a red colour, and, with the addition of copperas a black. It is also used to dye brown, particularly thread, and for colours to be saddened with copperas. It is principally used by fishermen to stain their nets. In the Highlands of Scotland near Dundonald, Mr. Pennant says, the boughs cut in the summer, spread over the fields, and left during the winter to rot are found to answer as a manure. In March the ground is cleared of the undecayed parts, and then ploughed. The fresh gathered leaves are covered with a glutinous liquor; and are sometimes strewed upon floors to destroy fleas; the fleas are said to be entangled in the tenacious liquor, as birds by birdlime. The *catkins* dye green.—The whole plant is astringent. It gives food to many kinds of moths and other insects. Horses, cows, goats and sheep eat it. Swine refuse it. If planted in a low meadow the ground surrounding it will become boggy, whereas, if Ash be planted, the roots of which penetrate a great way, and run near the surface, the ground will become firm and dry.

Mr. WOODWARD.

na'na.

B. Leaves circular, scalloped.

Dicks. h. s.—*Fl. Ross.* 40. *D. E. F. G.*—*Amæn. academ.* 1. at p. 351—*Fl. lapp.* 6. 4—*Lightf.* 25. at ii. p. 575—*Fl. dan.* 91.

Shrub upright. *Trunk* hard, stiff. *Bark* brown, roughish, resembling that of the *Ulmus campestris*. *Branches* expanding, straight, scattered, tapering, woolly, somewhat gummy at the ends. *Leaves* rather broader than they are long. *STOKES*, commonly three from each bud. *LIGHTFOOT*, but frequently single and alternate, generally entire at the base, scollops often pointed. *Catkins* about half an inch long. *WOODWARD*.

Dwarf Birch. Mountains and wet heaths, in Scotland.

S. May.*

MYRI'CA. Flowers in catkins, on different plants.

Cal. 2 leaves: *bloss.* none.

Fem. Drupa 1-celled, superior: *seed* 1.

Ga'le.

M. Leaves spear-shaped, somewhat serrated; stem shrub-like.

E. bot. 562—*Kniph.* 9—*Fl. dan.* 327—*Ger.* 1228—*Gars.* 397—*Dod.* 780. 2—*Ger. em.* 1414—*J. B. i. b.* 225—*Lob. adv.* 417, ic. ii. 110. 2—*Lob. obs.* 547. 2—*Park.* 1451. 5.

Stems smooth, rust-coloured, sprinkled with white dots. *Flower-buds* above the leaf-buds, at the ends of the branches, whence as soon as the fructification is completed, the end of the branch dies, the leaf-buds which are on the sides shoot out, and the stem becomes compound. *Buds* composed of 9 leafy, shining scales; the first nearly opposite, very short, rectangularly pointed; the rest egg-shaped, blunt. *Leaves* convoluted, sprinkled with resinous points, serrated towards the end, on leaf-stalks. *Flowers* appearing before the leaves. *Female spike* oblong, composed of 5 rows, and in each row 5 berries. *Berries*

* Linnaeus somewhere observes that the plants which chiefly grow upon mountains, are hardly found any where else but in marshes: probably because the clouds resting upon the tops of the mountains keep the air in a moist state as do fogs, the clouds of the lower atmosphere, in meadows and marshes.—The leaves dye a finer yellow than that yielded by the *Betula alba*. It affords the Laplander, in the summer when he lives on the mountains, fuel for the fires which he is obliged constantly to keep in his hut to defend him from the gnats, and covered with the skin of the rein deer, it forms his bed. LINN.—(The harness for horses in some parts of the highlands of Scotland is made of the twisted twigs of birch. *Garnett's tour.* E.)

thickish, roundish, angular, taper pointed, with 3 shallow clefts, a small tooth being fixed to each, sprinkled with golden resinous dots. LINN. *Catkins* male and female on the same plant. In other specimens from the same spot, catkins on distinct plants. STOKES. And sometimes I have found a few female florets upon the male catkins.

Sweet Gale. Dutch Myrtle.—On bogs in gravelly soil, not unfrequent, and generally in large quantity.—(In Moreton Moors, 3 miles from Blymhill, Shropshire. Rev. S. DICKENSON.—Harwoodale Moors, near Scarborough. Mr. TRAVIS. E.)—Highlands of Scotland.—Near Rufus's Monument in the New Forest, Hampshire.—(Abundant on the Moors in Caermarthenshire. particularly about Llyn Idwell, and Llyn Ogwen, between Capel Curig and Bangor. E.) S. May.*

CUS'CUTA. *Cal.* 4 or 5-cleft: *bloss.* 1 petal: *caps.* 2-celled, cut round: *seeds* in pairs.

C. Flowers sitting, mostly 4-clefted: stamens with a *Europæ'a*. fringed scale at the base: summits simple.

E. bot. 378—*Blackw.* 554—*Fl. dan.* 199—*Fuchs.* 348—*Matth.* 1279—*Trag.* 810—*Dod.* 554—*Lob. obs.* 233. 1—*Ger. em.* 577—*Park.* 10. 2—*Ger.* 462—*J. B.* iii. 266.

This *plant* is parasitical, without seed-lobes. The *seed* itself opens and puts forth a little spiral body, which does not seek the earth to take root, but climbs in a spiral direction from right to left, up other plants, from which by means of vessels, it draws its nourishment. *Leaves* none, except here and there a very small membranaceous scale lying close under a branch. LINN. Whole plant purplish red except the *blossom* which is whitish.

Greater Dodder. On hops, nettles, flax, thistles, and gorze. A. Aug.—Sept.†

* The northern nations formerly used this plant instead of hops; but unless it be boiled a long time it is apt to occasion head-ache.—The catkins boiled in water throw up a waxy scum, which gathered in sufficient quantity would make candles. From another species of this plant, the *Myrica cerifera*, the myrtle candles are prepared. It is used to tan calf-skins.—Horses and goats eat it; sheep and cows refuse it.—Gathered in the autumn it dyes wool yellow. LINN.—The Welsh make use of it for the same purpose. They also lay branches of it upon and under their beds to keep off fleas and moths, and give it as a vermifuge in powder and infusion, applying it also externally to the abdomen. PENN. *Wales* ii. p. 147. Its essential oil rises in distillation. When growing within reach of a sea port I have known sailors fetch it to make besoms for sweeping their ships.

† The *seeds* sown in a pot produced plants, but which soon died, unless they could attach themselves to some other plant. PARK. and RAY *hist.* As soon as the shoots have twined about an adjoining plant, they send out from

Epith'ymum. C. Flowers sitting, 5-clefted, surrounded by floral leaves; stamens without scales at the base; summits simple.

E. bot. 55—*Fl. dan.* 427—*Park.* 10. 1—*Math.* 1277—*Pomet.* 42. 9.

Blossom with 5 divisions, none with less. Shape of the blossom and calyx agrees with *Fl. dan.* 427, though in habit it resemble t. 199. WOODWARD. *Calyx segments* egg-shaped, taper-pointed, unequal, not running down into a kind of fruit-stalk as in *C. europæa*. St. Much more common than the *C. europæa*.

Lesser Dodder. Corn fields and heaths, very common. HUDS. [On Heaths about Teignmouth; and on Gorze, (*Ulex*) in great quantities between Penzance and the Land's End.]

A. June—July.

Var. 2. Cup fleshy at the base; 5-clefted: blossom 5-clefted: stamens 5; pistils 2; seeds 2.

In Devon and Cornwall, along with the preceding. June.

TRIGYNIA.

BUX'US. Male and female flowers on the same or on a different plant.

Male. *Calyx* 3-leaved: *bloss.* 2 petals: *germen* only a rudiment.

Female. *Calyx* 4-leaved: *bloss.* 3 petals: *caps.* 3-celled; 3-beaked: *seeds* 2.

sempervi-
rens.

B. Male and female flowers on the same plant.

E. bot. 1341—*Ludw.* 4—*Kniph.* 1—*Sheldr.* 85—*Walc.*—*Matth.* 190—*Ger.* 1225. 1—*Trag.* 1069—*Dod.* 782. 1—*Munt.* 157. 35—*Lob. obs.* 562; *ic.* ii. 128. 2—*Ger. em.* 1410—*Park.* 1429. 1—*Fuchs.* 642—*Blackw.* 196—*Lonic.* i. 22. 2.

(A low tree, or smooth, ever-green shrub. *Leaves* opposite, nearly sitting, oval, notched at the end, very entire, of various breadth, shining. *Petals* concave, shorter than the stamens.

their inner surface a number of little vesicles or papillæ, which attach themselves to the bark, or rind of the plant. By degrees the longitudinal vessels of the stalk, which appear to have accompanied the vesicles, shoot forth from their extremities, and make their way into the foster plant, by dividing the vessels, and insinuating themselves into the tenderest part of the stalk; and so intimately are they united with it, that it is easier to break than to disengage them from it. *Guetard in Gent. Mag.*

Fl. Brit. E.) Leaves oval, thick, glossy. *Blossoms* greenish white.

Common Box Tree. Woods and hedges.—Box-hill, near Dorking, Surrey, plentifully. *RAY.*—Woods of them at Boxwel in Coteswold, Gloucestershire, and Boxley, Kent. *R. Syn.*—[In plenty on the Chalk Hills, near Dunstable. *Mr. Woodward.*]—(Near Sutton Coldfield, in Warwickshire, we have observed a Box tree full twenty feet high, and the main stem measuring nearly eighteen inches in circumference. *E.)*

*S. April.**

Var. 2. Leaves narrower. On Box-hill. *R. Syn.*

TETRAGYNIA.

I'LEX. *Stam. and pist. variously disposed : calyx* 4-toothed: *bloss.* wheel-shaped: *style* none: *berry* 4-seeded.

I. *Leaves* egg-shaped, acute, thorny, on leaf-stalks; flow- *Aquifolium.* ers in a kind of umbel, axillary.

E. bot. 496—*Kniph.* 11—*Fl. dan.* 508—*Mill.* 46—*Hunt. Evel.* 383. i. p. 362. *ed. II.*—*Blackw.* 205—*Nat. displ.* ii. 9. *A. at* p. 71—*Dod.* 658—*Matth.* 161—*Jonst.* 63. 6—*Ger.* 1155—*Lob. obs.* 582. 1—*Ger. em.* 1338—*Walc.*—*Munt.* 164. 38—*Trag.* 1067—*Park.* 1487. 1.

Leaves surrounded by a strong woody border; tough, shining, evergreen; frequently indented, and each tooth ending in a strong, sharp thorn. The leaves upon the same tree are some of them entire, and some of them thorny. *Flowers* small, whitish, lateral, on short fruit-stalks, generally 3 together, springing from a sort of scale upon the branch. *Berries* scarlet, crowned with the cup, which turns black. *Seeds* 3 or 4. I have found it in flower so late as the second week in June, and then *all the flowers* had 4 stamens and 4 pistils.

Common Holly Tree. Woods, hedges, heaths. [On the north side of the Wrekin, in Shropshire, the trees grow to a large size; (also in Needwood Forest, and other like situations. *E.)* *T. May.*

* The wood is yellowish, very hard and smooth, and not apt to warp, and therefore well adapted for the use of the Turner. Combs, mathematical instruments, knife-handles, and button-moulds are made of it. An empyreumatic oil, distilled from the shavings, is often used as a topical application for the piles, and seldom fails to procure ease. It will frequently relieve the tooth ache, and has been given internally in epilepsies. The leaves powdered are cathartic, and destroy worms. (The wood is sudorific and alterative. *E.*) In the South of Europe it is cultivated in gardens, and kept in flower pots with as much attention as we bestow upon Myrtle.

Var. 2. Berries yellow.

Agrifol. baccis lut. &c. RAY *Syn.* 466. Wiston, Suffolk.
RAY. (In the hedge on the road side leading from Edinburgh to
Queensferry, about a mile and half from the Ferry. E.)

T. April—June.*

POTAMOGE'TON. *Cal.* none : *petals* 4 : *style*
none : *seeds* 4.

na'tans.

P. Leaves oblong-egg-shaped, on leaf-stalks ; floating.

Var. 1. *floating*. Sheaths of the fruit-stalks and leaf-stalks
more than half the length of the respective stalks.

Fl. dan. 1025—*E. bot.* 1822—*Fuchs.* 651—*Trag.* 688—*Mill. ill.*—
Ger. em. 821. 1—*Pet.* 5. 4—*H. ox. v.* 29, row 1. 1, at p. 596
—*Ger.* 675. 1—*Park.* 1254. 1—*Matth.* 1137.

Leaves opaque, those of the other species pellucid. ST. *Spikes*
from the base of the leaves, on fruit-stalks as large as the stem.
Flowers sitting, numerous. WOODWARD. yellowish. *Leaf-stalks*
for the most part longer than the leaves.

Broad-leaved Pondweed. Ponds and slow rivers, common.

P. July—Aug.†

Var. 2. *bog*. Sheaths of the fruit-stalks and leaf-stalks less
than half the length of their respective stalks.

When growing in a place which is dried up in the summer,
it surprizingly changes its appearance, becoming upright, and
resembling a small *Plantago*. LINN. *Leaves* alternate, except the

* All the varieties which gardeners reckon to the amount of 40 or 50, are
derived from this one species, and depend upon the variegations of the leaves
or thorns, and the colour of the berries. Sheep are fed in the winter with the
croppings. *Pennant's Tour*, 1772. p. 32; as are also Deer. Birds eat the ber-
ries. The bark fermented and afterwards washed from the woody fibres, makes
the common Birdlime. It makes an impenetrable fence, and bears cropping
nor is its verdure, or the beauty of its scarlet berries, ever observed to suffer
from the severest of our winters. The wood is used in veneering, and is some-
times stained black to imitate Ebony. Handles for knives, and cogs for mill-
wheels are made of it.

It has been observed, I think by Linnæus, that the lower branches within
reach of cattle bear thorny leaves, whilst the upper ones, which stand in need
of no such defence, are without thorns.

† The leaves floating upon the surface of the water afford an agreeable
shade to fish, and are the habitation and food of the *Phalæna Potamogeton*. The
roots are a favourite food of swans. Their love of this plant, so troublesome in
still pieces of water, is such, that by harassing it in search of its succulent roots
during winter, a pair of them have almost destroyed it in the whole extent of
nearly five acres of water, which at times has been completely matted over with
it. MR. STACKHOUSE.

upper pair, which are opposite; *lower* ones spear-shaped, on long leaf-stalks; *upper* ones oval, with shorter leaf-stalks. *Stem* about 4 inches high. Smaller, and flowers a month or six weeks earlier than Var. 1.

[Boggy ground on Birmingham Heath. In places where stagnant water has been dried up or drained off.] P. May—Aug.

(P. Leaves under the surface of the water membranaceous, heterophyll-
strap-spear-shaped, sitting; those floating leather-
like, elliptical, having leaf-stalks; fruit-stalks thickest
upwards. lum.

E. bot. 1285—*Fl. dan.* 222; but wanting the floating leaves.

Stems very much branched, straddling, cylindrical, leafy on all sides. *Leaves* very entire, pale green, slightly scored. *Sheath-scales* within the leaves, oblong, bluntish. *Floral-leaves* broader than the sheath-scales, keeled, concave. *Spike* simple, greenish. *Fl. Brit.*

Various-leaved Pondweed. P. heterophyllum. Schreb. Hoffm. Willden. *P. palustre.* Teesdale. Relhan's *Fl. Cantab.* In ditches and stagnant ponds. In ditches near Beverley, Yorkshire. Mr. TEESDALE.—Berrington Pool, Shropshire. Rev. Mr. WILLIAMS.—At Old Buckenham, Norfolk. Mr. D. TURNER.—Near Forfar, Scotland. Mr. G. DONN. *Fl. Brit.*—Also found near Diss, in Norfolk, by Mr. WOODWARD.—Burwell Fen, Cambridgeshire. RELHAN. P. July—Sept. E.)

(P. Lower leaves spear-shaped, tapering to a point, mem- flu'itans.
branaceous; upper-leaves oval-spear-shaped, rather
leathery; all the leaves having leaf-stalks.

E. bot. 1286.

Nearly the whole plant grows under water; the uppermost leaves alone swimming on the surface, and bearing up the spikes. *Stems* floating, very long, branched, leafy. *Leaves* reddish green, very entire, slightly scored, alternate. *Sheath-scales* widely spear-shaped. *Fruit-stalks* axillary, solitary, nearly as long as the leaves; rather thick. *Spike* dense, reddish. *Fl. Brit.*

Long-leaved Floating Pondweed. In slow streams. In ditches in marshy ground near Beverley. Mr. TEESDALE.—Lilleshall Mill-pool, Shropshire. Rev. Mr. WILLIAMS.—At Scole, Norfolk. Mr. WOODWARD and Mr. D. TURNER. *Fl. Brit.*—Also found by Mr. WOODWARD, near Diss, Norfolk.

P. July—Aug. E.)

perfolia'tum. P. Leaves heart-shaped, embracing the stem.

E. bot. 168—*Fl. dan.* 196—*Dod.* 582. 3—*Ger. em.* 822. 3—*J. B.* iii. 778. 2—*Pet.* 5. 6—*H. ox.* v. 29. row 2. 3. at p. 596.

Leaves heart-egg-shaped, very pellucid, like green oiled silk; brittle when dry. *Blossom* yellowish.

Perfoliate Pondweed. Slow rivers and ponds, very common, but the *fruit-stalk* the only part which rises above the surface of the water. P. June—Aug.

lu'cens. P. Leaves very long and spear-shaped, sitting: upper ones opposite.

E. bot. 376—*Kniph.* 5—*Fl. dan.* 195—*Pet.* 5. 5—*J. B.* iii. 777. 1—*Dod.* 582. 2—*Ger.* 822. 4—*H. ox.* v. 29. 4. at p. 596.

(*Leaves* egg-spear-shaped, flat, growing slender into leaf-stalks. *Spike* many-flowered, compact. *Fl. Brit. E.*) *Leaves* beautifully green and pellucid, like those of the preceding species; sometimes 8 inches long, and 1 and a half broad. *Blossom* reddish.

Shining Pondweed. *Long-leaved Pondweed.* Rivers and ponds. [River Skern, near Darlington. Mr. ROBSON.]

P. June—July.

den'sum. P. Leaves egg-shaped, tapering to a point; opposite, crowded: stem forked: spike 4-flowered.

E. bot. 397—*J. B.* iii. 777. 2.

Fruit-stalk very short, in the fork of the stem. LINN. Bent back. *Leaves* waved at the edge, crowded towards the end of the stem. WOODWARD. *Leaves* strap-spear-shaped, 3-ribbed; edges very finely serrulated.

Lesser Water Caltrops. *Frogs' Lettuce.* *Close-leaved Pondweed.* Ditches and slow streams. P. May—June.

cris'pum. P. Leaves spear-shaped, alternate or opposite, waved and serrated.

Curt. 5—*E. bot.* 1012—*Fl. dan.* 927—*Ger. em.* 824. 2—*Park.* 1248. 2—*Pet.* 5. 9—*J. B.* iii. 778. 1—*Clus.* ii. 252. 2—*Ger. em.* 824. 3—*Park.* 1248. 3—*Pet.* 5. 8.

Stems branched, flattened. *Leaves* alternate, at the forks of the stem opposite, sitting, nearly strap-shaped, semi-transparent, very crisp. *Spikes* as long as the fruit-stalks. *Blossom* white or reddish.

Greater Water Caltrops. Curled Pondweed. Ponds and slow streams, very common. P. May—July.*

P. Leaves strap-shaped, blunt; stem flattened.

compres'sum.

E. bot. 418—*Fl. dan.* 203—*Pet.* 5. 10.

Leaves narrower than in the preceding, not waved. *Spikes* shorter than the fruit-stalks. *Blossom* greenish.

Flat-stalked Pondweed. Slow streams and ditches. [River Skern, near Darlington. Mr. ROBSON.] P. June—July.

(Var. 2. *Leaves* broader and longer. RELHAN. *Fl. Cantab.* Queen's Green, &c. Cambridge.

Mr. Dawson Turner suspects from the great difference of habit, as well as size, that this may prove a distinct species. E.)

P. Leaves bristle-shaped, parallel, near together, pointing pectina'tum.
2 ways.

E. bot. 323—*Fl. dan.* 186—*Lob. ic. i.* 790—*Ger. em.* 828. 4—*Pet.* 5. 13—*Pluk.* 216. 5.

(The plant does not bear blossoms unless it grow in stagnant water. *Fl. Brit. E.*) *Flowers* 5 or 6 on each fruit-stalk. Mr. STACKHOUSE. *Stem* cylindrical. *Leaves* flattened. *Blossom* whitish.

Fennel-leaved Pondweed. Rivers and ponds. [River Waveney. Mr. WOODWARD. Entirely filling a pond at Pendarvis, Cornwall. Mr. STACKHOUSE.] P. May—July.

(Var. 2. *Leaves* scarcely a line broad. POLLICH. E.)

Vaill. 32. 5—*H. ox. v.* 29. 9. at p. 596.

Leaves growing from the sheaths, which are slightly forked at the extremity. In stagnant salt water ditches the whole plant is shorter; the branches and leaves closer and more frequent. In running water, whether salt or fresh, it grows to a vast length, and the branches and leaves are farther asunder, but in both cases preserve their parallelism. *Spike* long; with sitting flowers, growing mostly in interrupted whirls. (In quite fresh water it changes to the other variety. WOODWARD. *P. marimum.* With. Ed. 4.—*P. pectinatum* var. β . *Fl. Brit. E.*)

Sea Pondweed. Salt water ditches. [Near Yarmouth. Mr. WOODWARD. In the Skern, near Darlington, a fresh water rivulet. Mr. ROBSON.] P. Huds. July—Aug.

* (Ducks greedily devour this plant, and may be usefully employed to clear ponds infested with it. E.)

gramin'ceum. P. Leaves strap-spear-shaped, alternate, sitting, broader than the stipulæ.

Ray. 4. 3.

(Stem cylindrical, rather forked. E.) The leaves at the base of the fruit-stalks opposite. Stipulæ very numerous and large. HALL. Fl. dan. and Ray are both referred to by Linnæus and Haller, but Mr. Lightfoot has very justly remarked the want of stipulæ in the fig. of Ray. I suspect they may be two species. Ray 4. 3, is the fig. referred to in the Sp. pl. and with which my specimens correspond. Stipulæ much narrower than the leaves, and so as easily to escape the attention of a common artist; rather strap-shaped, bluntish, and set close, as in Ray's figure. Ribs 3; very finely serrated. STOKES. Leaves mostly serrulated upwards.

Grass-leaved Pondweed. Slow streams and ditches. Binsey common. Ditches by the road side going to Port Meadow, Oxon. SIBTHORPE. [River Skern, near Darlington. Mr. ROBSON.]—(This plant has been observed for many years by the Rev. R. RELHAN, in Cambridgeshire, and will probably be more fully noticed in a supplement to the Flora Cantabrigiensis which that author intends soon to publish. About Keswick. Mr. HUTTON. In ditches about Rhyd Marsh, Flintshire. Mr. GRIFFITH. In fish ponds at Castle Howard. Mr. TEESDALE. E.) P. July.

seta'ceum. P. Leaves spear-shaped, opposite, tapering to a point.

Peaty ditches in Lancashire. P. July—Aug.

(lanceola-
tum. P. Leaves lanceolate, membranous, entire, tapering at the base; spike ovate, dense, of few flowers.

E. bot. 1985.

Stems floating, slender, round, branched, with creeping roots. Leaves an inch and a half to two inches long, uniform, bluntish, flat, thin, with one rib, and several reticulated veins, tapering at the base, alternate, except where the flowers are situated. Stipulæ narrow, lanceolate, acute. Flower-stalks solitary from the bosom of one stipula of the opposite leaves, nearly as long as the corresponding leaf, cylindrical, equal. Spike short, of 8, 10, or 12 small flowers. Colour of the whole plant dark green or brownish.

Thus is named and described in the English Botany, a plant found by the Rev. H. Davies in the lakes of North Wales. Dr. Smith is of opinion that it may possibly prove to be the real *P. setaceum* of Linnæus, as yet so imperfectly known in

this country. We find in our herbarium, specimens from Llyn y Cwn, (a lake in North Wales,) communicated by Mr. Griffith, much resembling it, but which have hitherto been esteemed a variety of *P. nutans*, and when we consider the changes which these plants undergo from the greater or less quantity of water, and its stagnant or current state, we cannot but suspect the permanency of *P. lanceolatum*.

Lanceolate Pondweed. Mountain Lakes. P. Aug. E.)

P. Leaves strap-shaped, opposite and alternate, distinct, pusillum. expanding from the base; stem cylindrical.

E. bot. 215—*Vaill.* 32. 4—*Pet.* 5. 11.

Leaves alternate; but those at the base of the fruit-stalks opposite. NECK, as is the case in all the species I have examined even where the other leaves are alternate. DR. STOKES. Whole plant extremely slender. *Stem* much branched, scored. *Leaves* very narrow, pointed, extremely expanding at the base, sometimes almost bent back. *Stipulae* broader than the leaves, short, membranaceous. *Spike* short. *Flowers* on fruit-stalks. WOODWARD. *Leaves* rather longer than the joints of the stem, not at all sheathing it. *Fruit-stalks* sheathed at the base by two concave, skinny, spear-shaped scales, which Dr. Smith observes are stipule, being found within the base of all the leaves, but are probably calculated to answer the purposes both of stipule and of floral-leaves, as lateral fruit-stalks rise from within them. *Spikes* terminating, nearly globular, about 3 flowers in each.

Small Pondweed. Ponds in clayey soil. [About Tamworth, Warwickshire.] A. LINN. P. HUDS. and Fl. Brit. June—Aug.

RUPPIA. *Cal.* none: *bloss.* none: *seeds* 4, on pedicles.

R.

maritima.

E. bot. 136—*Fl. dan.* 364—*Mich.* 35—*Pluk.* 248. 4—*Pet.* 6. 1—*Lob. obs.* 653. 1, and *ic.* ii. 255. 2—*Ger. em.* 1573. 7—*Park.* 1289. 5—*Lightf.* 8. 1—*Fructif.* Ray 6. 1. at p. 168.

Flowers on each fruit-stalk, from 1 to 4, though commonly 2, one terminating, and one sitting. *Stamens*, *germens* and *seeds*, 4 in each flower. This plant when not in fruit, very much resembles *Potamogeton pectinatum*. var. *marinum*. MR. ROBSON. (This plant, like the *Valisneria*, lengthens or contracts its fruit-stalks according to the greater or less depth of the water. DR. GOODENOUGH, E.) *Leaves* alternate, very long and slender. *Stems* thread-shaped,

Tassel Pondweed. Sea Tassel-grass. Salt water ditches. [Near Yarmouth. Mr. WOODWARD.—Cornwall. Mr. STACKHOUSE.—Near the mouth of the Tees. Mr. ROBSON.]—(Pool near Birkenhead, opposite Liverpool. Mr. Burgess.—Ditches below Wisbech. Mr. SKRIMSHIRE, in *Bot. Guide*.—Ditches between Traeth Mawr and Pont Aberglaslyn. BINGLEY. E.)

A. LINN. P. HUDS. July—Aug.

SAGINA. *Calyx* 4-leaved: *petals* 4: *caps.* 1-celled, 4-valved, many-seeded.

procumbens. S. Branches trailing, (smooth; petals very short. E.)

Curt.-E. bot. 880—*Kniph.* 10—*Seguier. i.* 5, 3—*Park.* 1340. 6
—*Pet.* 59. 10.

Flowers sometimes with petals, and sometimes without. LINN. *Root* perennial when cultivated, and in a garden it produces petals, though I could never find any in a wild state. JACQUIN. Two or three inches high; *stems* thread-like; *leaves* slender, and minute. *Blossom* greenish white. The 4 valves of the capsule, after it opens, have so much the appearance of petals, that it is possible to mistake them for such. (*Stems* and *leaves* constantly remaining green through the winter. E.)

Chickweed-Breakstone. Trailing Pearlwort. Walls, roofs, sandy, and also boggy places; garden walks, paved courts, common. P. June.

Var. 2. Flowers with 5 petals.

This seldom or never grows in patches. The fruit-stalks and the capsules are longer than in Var. 1. The flowers have mostly 5 petals and 10 stamens, and then they have always 5 styles.

[On Ben Lawers, at a great height. Mr. BROWN. Aug. 1794.]

apetala. S. Stem rather upright, pubescent; flowers alternate, without petals. LINN. petals very minute. ST. notched at the end.

Dicks. h. s.—*Curt.-E. bot.* 881—*Fl. dan.* 845—*Plott. oxf.* 9. 7.
at, p. 146—*Pet.* 59. 11—*Pluk.* 74.

Leaves hairy, *Hairs* not terminated by minute globules as in *Spergula laricina*, which it otherwise much resembles. It is still a smaller and a more slender plant than the preceding, and is always hairy, whilst the other is never so. It is an annual and the other a perennial. CURTIS. (*Seeds* encircled with a black line, as are those of the *Spergula subulata*, *Fl. Brit.* E.)

The hairs on the stems are apt to fall off; but those on the leaves are more permanent.

Annual Pearlwort. On walls, gravel-walks, and other very dry places, not uncommon. A. May—June.

S. Stem upright, generally supporting a single flower. erect'a.

Dicks. h. s.—E. bot. 609—*Curt.—Ray* 15. 4. at p. 348—*Vaill.* 3. 2—*Pet.* 59. 9.

Stem with 1 to 3 flowers. LINN. *Capsule* that of a *Cerastium*, with 10 teeth. CURTIS. (Whole plant glaucous, smooth. *Petals* a little shorter than the calyx, entire. *Seed-bud* egg-shaped. *Summits* almost sitting, hairy. *Seeds* kidney-shaped, rough. *Fl. Brit. E.*) A much stronger plant than either of the preceding; about 2 inches high. *Leaves* strap-spear-shaped. *Blossom* white.

Least Stichwort. Upright Pearlwort. Gravelly soil. [Heaths in Norfolk, frequent. Mr. WOODWARD.] A. April—May.

S. Stem spreading, forked: leaves battledore, or inversely cerastoi'des.
egg-shaped; pointed, bent back; fruit-stalks reflected after flowering.

Dicks. h. s.—Curt.—E. bot. 166.

A span high. *Stems* several, cylindrical. *Branches* diverging. *Leaves* opposite, in pairs, upper ones sitting. *Flowers* from the forks of the stems and branches. *Fruit-stalk* an inch long, pubescent. *Calyx* 4-leaved. *Blossom* 4-petals, white, cloven at the end, but half the length of the cup. *Stamens* 4. *Germen* egg-shaped, as long as the stamens. *Styles* 4, very short, upright. *Summits* bent back, woolly. *Capsule* cylindrical, opening at the top, with 8 teeth. Its habit that of a *Cerastium*.

Discovered by Mr. DICKSON on the sandy shores of Inch Keith, Inch Coombe, and on the beach near Preston Pans, Scotland.—(Sea shore near South Shields and Sunderland, and Whitburn Sands. Mr. WINCH.—Sand hills near Swansea. Mr. J. WOODS, jun.—On Yarmouth Denes. Mr. D. TURNER.—Links at Hartley Pans, and Holy Island, Northumberland. Mr. WINCH.—About Yoxford, Suffolk. Rev. G. CRABBE. *Bot. Guide.* E.) A. June—July. Linn. tr. ii. 343.

(Dr. Smith has removed this plant to the genus *Cerastium*, calling it *C. tetrandrum*, (after Mr. Curtis,) a genus with which its general habit certainly much accords, though it appears that all wild specimens exhibit blossoms four cloven, and with only four stamens. E.)

CLASS V.

PENTANDRIA.

MONOGYNIA.

- (1) *Flowers of 1 petal; beneath; and 4 naked seeds.*
ROUGH-LEAVED.

E'CHIUM. *Bloss.* mouth naked; irregular; bell-shaped.

PULMONA'RIA. *Bloss.* mouth naked; funnel-shaped:
Cal. prism-shaped.

LITHOSPER'MUM. *Bloss.* mouth naked; funnel-shaped:
Cal. with 5 divisions.

SYM'PHYTUM. *Bloss.* mouth toothed; bellying.

BORA'GO. *Bloss.* mouth toothed; wheel-shaped.

LYCOP'SIS. *Bloss.* mouth closed; funnel-shaped; tube
crooked.

ASPERU'GO. *Bloss.* mouth closed; funnel-shaped: *Fruit*
compressed.

CYNOGLOS'SUM. *Bloss.* mouth closed; funnel-shaped:
Seeds depressed; fixed sidewise.

ANCHU'SA. *Bloss.* mouth closed; funnel-shaped; tube
prism-shaped at the bottom.

MYOSO'TIS. *Bloss.* mouth closed; salver-shaped; lobes
notched at the end.

- (2) *Flowers of 1 petal; beneath. Seeds in a vessel.*

ANAGAL'LIS. *Caps.* 1-celled; cut round: *Bloss.* wheel-
shaped; *Summit* a knob.

LYSIMA'CHIA. *Caps.* 1-celled; 10-valved: *Bloss.* wheel-
shaped: *Summit* blunt.

CY'CLAMEN. *Caps.* 1-celled; pulpy within: *Bloss.* re-
flected: *Summit* acute.

PRIMULA. Caps. 1-celled: Bloss. funnel-shaped; mouth open: Summit a knob.

HOTTONIA. Caps. 1-celled: Bloss. tube below the stamens: Summit globular.

MENYANTHES. Caps. 1-celled: Bloss. shaggy: Summit cloven.

CONVOLVULUS. Caps. 2-celled; 2 seeds: Bloss. bell-shaped: Summit cloven.

DATURA. Caps. 2-celled; 4-valved: Bloss. funnel-shaped: Cal. deciduous.

HYOSCYAMUS. Caps. 2-celled; covered with a lid: Bloss. funnel-shaped: Summit a knob.

VERBASCUM. Caps. 2-celled: Bloss. wheel-shaped: Stamens declining: Summit blunt.

CHIRONIA. Caps. 2-celled: Bloss. funnel-shaped: Anthers spirally twisted after flowering.

LOBELIA. Caps. 1 to 3-celled: Bloss. irregular: Cal. 5-cleft.

POLEMONIUM. Caps. 3-celled: Bloss. with 5 divisions: Stam. standing on the valves.

AZALEA. Caps. 5-celled: Bloss. bell-shaped: Summit blunt.

VINCA. S. Vess. 2 upright little bags: Bloss. salver-shaped: Seeds simple.

SOLANUM. Berry 2-celled: Anthers with 2 holes in each.

ATROPA. Berry 2-celled: Stamens distant, crooked.

[Gentiana Centaurium.]

(3) Flowers of 1 petal; superior. Seeds in a vessel.

SAMOLUS. Caps. 1-celled; 5-valved at the top: Bloss. salver-shaped: Summit a knob.

PHYTEUMA. Caps. 2 or 3-celled; perforated: Bloss. with 5 divisions.

CAMPANULA. Caps. 3 or 5-celled; perforated: Bloss. bell-shaped: Summit 3-cleft.

LONIC'ERA. *Berry* 2-celled; roundish: *Bloss.* irregular: *Summit* a knob.

[*Viburnum lantana.* *Rubia.*]

(4) *Flowers of 5 petals; beneath the germen.*

RHAM'NUS. *Berry* 3-celled; roundish: *Cal.* tubular, resembling a blossom, with 5 converging scales at the mouth.

EUO'NYMUS. *Berry* like a capsule; lobed: *Cal.* expanding: *Seeds* in a berry-like seed-coat.

IMPA'TIENS. *Caps.* 1-celled; 5-valved: *Bloss.* irregular: *Nectary* 1 leaf; hood-like: *Stamens* adhering together: *Cal.* 2 leaves.

VIOLA. *Caps.* 1-celled; 3-valved: *Bloss.* irregular; with a spur behind: *Anthers* adhering together: *Cal.* 5 leaves.

(5) *Flowers of 5 petals; above the germen.*

RU'BUS. *Berry* many-seeded: *Cal.* bearing the blossom: *Style* cloven.

HE'DERA. *Berry* 5-seeded; clasped by the calyx: *Summit* simple.

JASIO'NE. *Caps.* 2-celled: *Bloss.* regular: *Anthers* adhering together: *Cal.* common, 10-leaved.

(6) *Flowers incomplete; beneath the germen.*

ILLE'CEBRUM. *Caps.* 1-seeded; 5-valved. *Cal.* simple, inelegant.

GLAU'X. *Caps.* 5-seeded; 5-valved: *Cal.* simple; inelegant; bell-shaped.

[*Salix pentandra.* *Polygonum amphibium.* *Atriplex.* *Salsola.* *Chenopodium maritimum.*]

(7) *Flowers incomplete; beneath.*

THE'SIUM. *Seed* 1; crowned: *Cal.* bearing the stamens.

DIGYNIA.

(1) *Flowers incomplete.*

XANTHIUM. Flowers compound. Male and fem. on the same plant.

M. *Cal.* common; tiled: *Bloss.* 1 petal; 5-cleft; funnel-shaped: *Recept.* chaffy.

F. *Cal.* involucre; 2-leaved; 2-flowered: *Bloss.* none: *Drupa* juiceless; prickly; with 2 clefts: *Nut* 2-celled.

ULMUS. *Berry* juiceless; compressed: *Cal.* 1 leaf: shrivelling.

HUMULUS. *Seed* 1; within a leafy calyx: *Flowers*, male and fem. on different plants.

M. *Cal.* 5-leaved.

F. *Cal.* 1 leaf; entire; with an oblique opening.

ATRIPLEX. *Seed* 1; compressed: *Female* flowers on the same plant.

H. *Cal.* 5 leaves.

F. *Cal.* 2 leaves.

CHENOPODIUM. *Seed* round and flat: *Cal.* with 5 divisions; segments concave.

BETA. *Seed* 1; kidney-shaped: *Cal.* with 5 divisions; with a 1-celled capsule in its base.

HERNARIA. *Seed* 1; egg-shaped; covered: *Cal.* with 5 divisions: *Filaments* 5 sterile ones.

SALSOLA. *Seed* 1; like a snail-shell; inclosed in a capsule covered by the calyx.

[*Polygonum amphibium*. *Staphylea pinnata*. *Scleranthus annuus*, and *perennis*. *Quercus*. *Cuscuta europæa*.]

(2) *Flowers of 1 petal; beneath the germen.*

SWERTIA. *Caps.* 1-celled; 2-valved: *Bloss.* wheel-shaped; with 5 nectariferous pores.

GENTIANA. *Caps.* 1-celled; 2-valved: *Bloss.* tubular: *Receptacles* of the seeds, 2.

[*Cuscuta*.]

PENTÁNDRIA:

(3) *Flowers of 5 petals, beneath.*[*Staphylea pinnata.*](4) *Flowers of 5 petals, mostly of 2 seeds. UMBELLIFEROUS.*A. *Involucrum* general, and partial.ERYN'GIUM. *Flowers* forming a head: *Recept.* chaffy.HYDROCO'TYLE. *Flowers* in a sort of umbel; fertile: *Seeds* compressed.SANICULA. *Flowers* in a sort of umbel; central ones barren: *Seeds* prickly.HERACLE'UM. *Flowers* radiate; some barren: *Invol.* deciduous: *Seeds* membranaceous.CENAN'THE. *Flowers* radiate; outer ones barren: *Invol.* simple: *Seeds* crowned, sitting.CAU'CALIS. *Flowers* radiate; central ones barren: *Invol.* simple: *Seeds* prickly.DAUCUS. *Flowers* radiate; central ones barren: *Invol.* winged: *Seed* rough with hairs.TORDY'LIUM. *Flowers* radiate; all fertile: *Invol.* simple: *Seeds* scoloped at the edge.PEUCE'DANUM. *Flowers* uniform; central ones barren: *Invol.* simple: *Seeds* depressed; scored.CONIUM. *Flowers* uniform; all fertile: *Partial Invol.* extending but half way round: *Petals* heart-shaped: *Seeds* bulging; ribbed and furrowed.BU'NIUM. *Flowers* uniform; all fertile: *Partial Invol.* like bristles: *Petals* heart-shaped.ATHAMAN'TA. *Flowers* uniform; all fertile: *Petals* heart-shaped: *Seeds* convex; scored.BUPLEU'RUM. *Flowers* uniform; all fertile: *Partial Invol.* resembling the petal: *Petals* rolled inwards.SI'UM. *Flowers* uniform; all fertile: *Petals* heart-shaped: *Seeds* nearly egg-shaped; scored.SELI'NUM. *Flowers* uniform; all fertile: *Petals* heart-shaped: *Seeds* flat; scored.CRITH'MUM. *Flowers* uniform; all fertile: *Invol.* horizontal: *Petals* flattish.

LIGUSTICUM. *Flowers* uniform; all fertile: *Invol.* membranaceous: *Petals* rolled inwards.

ANGELICA. *Flowers* uniform; all fertile: *Umbellules* globular: *Petals* nearly flat.

SISON. *Flowers* uniform; all fertile: *Umbel* of few spokes: *Petals* nearly flat.

B. *Involucrum* only partial.

CORIAN'DRUM. *Flowers* radiate; central ones barren: *Fruit* globular.

SCAN'DIX. *Flowers* radiate; central ones barren: *Fruit* oblong.

ÆTHUSA. *Flowers* somewhat radiate; all fertile: *Partial Invol.* extending but half way round.

PELLAN'DRIUM. *Flowers* uniform; all fertile: *Fruit* crowned.

IMPERATORIA. *Flowers* uniform; all fertile: *Umbel* spreading; flat.

CICUTA. *Flowers* uniform; all fertile: *Petals* flattish.

CHÆROPHYL'LUM. *Flowers* uniform; central ones barren: *Partial Invol.* of 5 leaves.

[*Bupleurum rotundifolium*. *Pimpinella*. *Heracleum Sphondylium*. *Cenanthe crocata*. *Caucalis leptophylla*. *Angelica sylvestris*. *Bunium Bulbocastanum*.]

C. *Involucrum* none; neither general nor partial.

SMYR'NIUM. *Flowers* uniform; central ones barren: *Seeds* kidney-shaped; angular.

CARUM. *Flowers* uniform; central ones barren: *Seeds* bulging; scored.

PASTINACA. *Flowers* uniform; all fertile: *Seeds* depressed and flat.

ANETHUM. *Flowers* uniform; all fertile: *Seeds* bordered; scored.

ÆGOPODIUM. *Flowers* uniform; all fertile: *Seeds* bulging; scored: *Petals* heart-shaped.

APIUM. *Flowers* uniform; almost all fertile: *Petals* bent inwards: *Seeds* minute; scored.

PENTANDRIA.

PIMPINEL'LA. *Flowers* uniform ; all fertile : *Umbels* before flowering, nodding : *Petals* heart-shaped.

TRIGYNIA.

(1) *Flowers above the germen.*

VIBUR'NUM. *Bloss.* 5-cleft : *Berry* 1-seeded.

SAMBU'CUS. *Bloss.* 5-cleft : *Berry* 3-seeded.

(2) *Flowers beneath the germen.*

CORRIGI'OLA. *Bloss.* 5 petals : *Cal.* with 5 divisions : *Seed* 1, 3-cornered.

STAPHYLE'A. *Caps.* with 2 or 3 clefts ; inflated : *Bloss.* 5 petals.

TAMARIX. *Caps.* 1-celled : *Seeds* downy ; *Bloss.* 5 petals.

[*Montia fontana.* *Arenaria rubra,* and *marina.* *Salsola fruticosa,* and *Kali.* *Holosteum umbellatum.* *Chenopodium maritimum.* *Quercus.*]

TETRAGYNIA.

PARNAS'SIA. *Bloss.* 5 petals : *Nectaries* 5 ; fringed with glands : *Caps.* 4-valved.

[*Ilex Aquifolium.* *Quercus.*]

PENTAGYNIA.

LINUM. *Bloss.* 5-petals ; *Caps.* 10-celled ; 1 seed in each cell.

DRO'SERA. *Bloss.* 5-petals ; *Caps.* 1-celled ; opening at the top.

SIBBALD'IA. *Bloss.* 5-petals ; *Cal.* 10-cleft ; *Seeds* 5.

STA'TICE. *Bloss.* with 5 divisions ; *Seed* 1.

[*Cerastium semidecandrum.* *Spergula pentandra.* *Geranium.* *Sagina procumbens.* *Quercus.*]

HEXAGYNIA.

[*Drosera*.]

POLYGYNIA.

MYOSU'RUS. *Cal.* 5-leaved; *Nectaries* 5; tongue-shaped; *Seeds* numerous.

[*Ranunculus hederaceus*.]

MONOGYNIA.

MYOSO'TIS. *Blossom* salver-shaped, 5-cleft, lobes notched: *mouth* closed with projecting scales: *nuts* 4, imperforated.

M. *Seeds* smooth; calyxes inversely egg-shaped, blunt, smooth, as long as the tube of the blossom; leaves spear-shaped. *palus'tris*.

Curt. 165-*E. bot.* 1973-*Kniph.* 11. *M. palustris*-*E. bot.* 480, the uncoloured figure-*Ger. em.* 337. 3-*Park.* 691. 8-*H. ox.* xi. 31. row 2. 4.

From 6 to 12 inches high. *Flowers* in a long spike-like bunch, twisted spirally at the top. *Blossom* fine blue, valves forming a bright yellow eye, convex above and covering the anthers which are in the hollow underneath.

Water Mouse-ear Scorpion-grass. *Myosotis scorpioides* β *palustris*. LINN. *M. scorpioides* φ . *Fl. Brit.* Wet ditches, springs, rivulets, common. P. May-July.

M. *Seeds* smooth; calyxes egg-shaped, tapering to a point, very hairy, longer than the tube of the blossom; leaves egg-spear-shaped. *arven'sis*.

E. bot. 480-*Kniph.* 11. *M. arvensis*-*Fl. dan.* 583-*Ray Syn.* 9. 2. at p. 128. *Dod.* 72-*Lob. obs.* 245. 4-*Ger. em.* 337. 4-*Park.* 691. 7-*H. ox.* xi. 31. row 2. 1-*J. B.* iii. 589. 2-*Walc.* 5.

A smaller plant than the preceding, and the blossoms much smaller, except perhaps when growing in a damp and shaded

situation, as was the case in the plant figured by Ray. In dry stations the blue border of the blossom is very small, and sometimes is scarcely expanded at all, so that the blossom appears yellow. Both the species are liable to this kind of variation, but it happens more frequently in the *M. arvensis*.

Field Mouse-ear Scorpion-grass. *Myosotis scorpioides. a arvensis.* LINN. Fl. Brit. Walls, dry pastures, gardens, and sandy places. A. May—June.

LITHOSPERMUM. Bloss. funnel-shaped, tube long, slender, open and without valves at the mouth: *cal.* with 5 divisions; *nuts* 4, very hard, imperforated.

officinale. L. Seeds smooth; blossoms hardly longer than the cup; leaves spear-shaped.

Fl. dan. 1084—*E. bot.* 134—*Woodv.* 213—*Kniph.* 9—*Ladv.* 147—*Dod.* 83. 2—*Ger. em.* 609. 2—*Park.* 432. 1—*H. ox.* xi. 31. row 1. 1—*Ger.* 486. 2—*Matth.* 918—*Fuchs.* 489—*Trag.* 536—*J. B.* iii. 590. 2.

(The plant rough, stiff, and branched. *Leaves* strongly veined, very entire. *Spikes* simple, leafy, curved inwards. *Fl. Brit. E.*)—*Blossoms* pale yellow. *Seeds* as hard as bone. LINN.

Graymill. Common Gromwell. Dry gravelly soil. Woods, common. Mr. WOODWARD. P. May—June.

arven'se. L. Seeds wrinkled; blossoms hardly longer than the cups.

Kniph. 10—*E. bot.* 123—*Riv. mon.* 9. 1—*Fl. dan.* 456—*Blackw.* 436—*H. ox.* xi. 28. 7—*Ger. em.* 610. 4—*Park.* 432. 6—*Matth.* 917.

(*Leaves* tongue-shaped, blunt, 1-ribbed, without veins *Fl. Brit. E.*)—Perfect seeds either two, three or four, but generally three, with one abortive; and when there are four perfect ones, which I found to be the case in two instances, there were besides two abortive, and six divisions in the calyx. Mr. AIRIN. *Roots* crimson red. *Blossom* white. *Seeds* rather covered with hard tubercles than wrinkled. *Calyx* segments, after flowering, three or four times as long as the seeds, but in the preceding species not twice their length.

Corn Gromwell. *Bastard Alkanet.* *Salfern.* *Painting Root.* Corn fields, common. A. May—June.*

* The girls in the North of Europe paint their faces with the juice of the root upon days of festivity. The bark of the root tinges wax and oil

L. Seeds smooth; blossom much longer than the cup.

pur'puro-
cæru'leum.

Jacq. austr. 14—*E. bot.* 117—*Pet.* 29. 6—*Clus.* ii. 163. 2—

Dod. 83. 1—*Lob. obs.* 245. 1—*Ger. em.* 609. 1—*Park.* 431

—*H. ox.* xi. 31. 2—*Pluk.* 76. 2—*Ger.* 486. 1—*J. B.* iii. 692. 1.

(*Leaves* spear-shaped, tapering to a point, 1-ribbed, without veins, rough. *Root* woody. *Fl. Brit. E.*)—The barren stems creeping and sending forth roots. *Flowering stems* upright. *Blossoms* purple. LINN. *Blossom* larger than in either of the preceding, of a fine deep blue, nearly twice the length of the calyx, whose segments after flowering grow much longer, as in the *L. arvense*.

Creeping or Purple Gromwell. Mountains and woody pastures, rare. In the West of England, and in a chalky soil near Greenhithe in Kent, found by Dr. LATHAM. *E. bot.*—(Wood at Castle-carrock. HUTCHINSON.—Coppice between Uxbridge, and Wookey. Dr. MATON; and abundantly in Chedder woods by the side of the road leading to Axbridge. *Bot. Guide.*

P. April—May.

ANCHU'SA. *Bloss.* funnel-shaped; mouth closed by projecting valves: *nuts* 4, each of 1 cell; perforated at the base.

(A. Spikes tiled, pointing one way; floral-leaves egg-shaped-officina'lis, ed; leaves spear-shaped.

Fl. dan. 572—*Fuchs. ic.* 150.

Root spindle-shaped, black on the outside. *Plant* rough with hairs. *Stem* two feet high, upright, angular, leafy, a little branched, paniced. *Leaves* spear-shaped, sharp-pointed; upper ones nearly egg-shaped at the base. *Bunches* mostly in pairs, rolled back. *Floral-leaves* egg-shaped, not strap-spear-shaped, as in *A. angustifolia*. *Blossoms* purple, funnel-shaped. *Fl. Brit.*

Common Alkanet. Amongst rubbish near the sea shore. On the links near Hartley Pans, Northumberland. Rev. T. BUTT. *Fl. Brit.*

P. June—July. E.)

A. Fruit-stalks in heads, 2 leaves to each head; leaves egg-shaped, acute; floral-leaves somewhat waved and serrated.

of a beautiful red, similar to that which is obtained from the root of the foreign Alkanet that is kept in the shops. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it.

Dicks. h. s.—E. bot. 45—*Munt.* 117—*H. ox.* xi. 26. 2—*Lob. adv.* 247—*Ger. em.* 797. 3.

(*Roots* thick, black on the outside, structure of the flower like that of the *Myosotis*. *Fl. Brit. E.*)—A strong rough dark green plant, nearly a yard high. *Leaves* with us rarely spotted with white, as Linnæus has observed them to be. This accident seems principally to happen to the root-leaves, which have stood the winter's cold, for the stem does not stand the winter. *Blossom* fine blue, segments rounded, tube at the base 4-cornered. *Germens* bedded in a hollow glandular receptacle. *Seeds* one or two generally abortive; rough, very hard.

Evergreen Alkanet. Road sides and amongst rubbish. Haddiscoe, Suffolk. Mr. WOODWARD.—Near Norwich. Mr. PITCHFORD.—Near the Blanketts, Worcester. Mr. BALLARD.—About Sidmouth. Mr. KNAPPE.—(On the ruins of Maes Glas Monastery, Flintshire. Mr. BINGLEY.—Basingwerk Abbey, near Holywell. Mr. GRIFFITH. E.)—Near Birmingham, on the Alcester Road, and in sandy hedge banks in the lanes about Edgbaston, plentiful.—(In the Master's Close, Emanuel College, under walnut trees, and in the back yard of Christ's College, Cambridge. RELHAN.—About Fowey, Cornwall. Mr. E. FORSTER, jun. and near Liskeard. Mr. DAWSON TURNER, in *Bot. Guide*. By the road side at Great Yeldham, Essex. Mr. E. FORSTER, jun. E.) P. May—July.

CYNOGLOS'SUM. *Bloss.* funnel-shaped: mouth closed by projecting valvès: *nuts* 4, depressed, fixed to the style by the inner side only, imperforated.

officina'le. C. Stamens shorter than the blossom; leaves broad, spear-shaped, sitting, cottony.

Fl. dan. 1147—*E. bot.* 921—*Kniph.* 6—*Wood.* 216—*Ludw.* 81—*Curt.* 249—*Matth.* 1190 and 1191—*Dod.* 54. 1 and 2—*Lob. obs.* 313—*Ger. em.* 804. 1 and 1—*Park.* 511 and 512. 3—*Blackw.* 249—*Ger.* 659—*H. ox.* xi. 30. 1 and 2—*J. B.* iii. 598.

Whole plant downy, and soft to the touch. *Leaves* strap-spear-shaped. *Calyx* segments oblong-egg-shaped, not sharp. *Blossom* a marone or mulberry colour. *Valves* fringed.

Great Houndstongue. Road sides and amongst rubbish, common. [Lilleshall Abbey, Shropshire.] B. (E. bot.) P. June*

C. Stamens shorter than the blossom; leaves spear-shaped, *sylvaticum*, harsh, flat, distant, nearly sitting. JACQUIN.

E. bot. 1642—*Col. ecphr.* 175—*Park.* 512. 5.

(*Stem* hairy, leafy. *Calyx* rough, haired. *Fl. Brit.* E.)—*Leaves* dark green, rough, not cottony. *Flowers* dull blue, or reddish, smaller than in the preceding, neither has the plant the strong scent nor the hoariness of that.

Green-leaved Hounds-tongue. *C. officin.* γ. Linn. Shady lanes about Worcester. STOKES.—Near the third mile stone from Worcester on the road to Pershore. NASH.—(By the road side near the Church, at Chingford, Essex, 27 May, 1810. Mr. WOODWARD.—Out of St. Benedict's gates, Norwich. ANDREW CALDWELL. Esq. E.) B. May.

(C. Stems creeping; root-leaves heart-shaped.

Omphalo-
des.

Kniph. 1—*Curt. Bot. Mag.* v. 1. pl. 7.

Leaves oval, and tapering to a point, rather than heart-shaped, smooth. *Blossoms* larger than those of the preceding species, bright blue. *Stems* slender, flowering ones nearly upright, but, as Curtis observes, putting forth trailing shoots, which take root at the joints.

Blue Navelwort. Discovered to be a British plant by Mrs. Taylor, who found it growing among the rocks at Teignmouth. POLWHELE, and Mr. D. TURNER, in *Bot. Guide*.

P. March—April. E.)

PULMONA'RIA. *Bloss.* funnel-shaped; mouth open: *calyx* tubular, but 5-sided.

(1) *Calyx* as long as the tube of the blossom.

P. Root-leaves spear-shaped.

angustifo-
lia.

E. bot. 1628—*Kniph.* 1—*Fl. dan.* 483—*Ger.* 662. 2—*Clus.* ii. 170. 1—*Ger. em.* 808. 2—*H. ox.* xi. 29. row 2. 5—*Park. par.* 251. 2.

* Both the root and leaves have been suspected to possess narcotic properties, but some will not admit the fact. It is discarded from the present practice; but Mr. Ray says that Dr. Hulse used a decoction of the roots inwardly, and cataplasms of them outwardly in strumous and scrophulous cases. Its scent is very disagreeable, and much resembles that of mice. Mr. HILL. Goats eat it. Cows, horses, sheep, and swine refuse it. It furnishes food to the *Phalana Domina*.—(If gathered when in full vigour, bruised with a hammer, and laid in any place frequented by rats and mice, they will immediately forsake the premises. M. BOREUX. E.)

PENTANDRIA. MONOGYNIA. Pulmonaria.

Very nearly allied to the *P. officinalis*, differing only in the narrowness of its leaves. LINN. Blossom red at first, expanding, soon changing to blue. All the leaves spear-shaped, (and much less spotted than in *P. officinalis*. E.)

Bugloss-Cowslips. Long-leaved Sage of Jerusalem. Narrow-leaved Lungwort. "Mr. Goodyer found it in a wood by Holbury House in the New Forest, Hampshire." JOHNSON, in *Ger. em.* p. 809.—*R. Syn.* 226.—The authority of Mr. Goodyer is cited also by Parkinson, but who supposes him to have found the *P. officinalis*. Mr. Robson informs me that he had a specimen sent him in the year 1783, by the late Mr. Waring, of Lees-crood, Flintshire, who found it growing wild on the ruins of the Monastery Maes Glas, but Mr. Griffith says Mr. Waring's specimen proves to be the *Anchusa sempervirens*.—(Mr. Griffith, had however, himself, the good fortune to discover this very rare plant in May 1804, in a wood through which the road passes, between Newport and Ride, in the Isle of Wight; and in the summer of 1806, it was gathered in the same spot by Mr. Turner and Mr. W. Borrer, directed thither by Mr. Griffith. P. May. E.)

officina'lis.

P. Root-leaves egg-heart-shaped, rough; upper leaves egg-shaped, acute. *E. bot.*

Ludw. 45—*Fl. dan.* 482—*Woodv.* 212—*Kniph.* 1. two figures—*E. bot.* 118. (but the uncoloured radical leaves are those of *P. angustifolia*. E.)—*Blackw.* 376—*Ger.* 662. 1, and 663. 4—*Chus.* ii. 169. 1—*Dod.* 135. 1—*Lob. obs.* 317. 1—*Ger. em.* 808. 1—*H. or.* xi. 29. 8—*Walc.*—*Park. par.* 251. 1—*J. B.* iii. 595—*Matth.* 1040.

Stems ten or twelve inches high; numerous, branchless, angular, upright, hispid. *Leaves* entire, hispid, light green, with white spots on the upper surface: *root-leaves* egg-heart-shaped, on long leaf-stalks, not much lengthened out at the base: *lower stem-leaves* egg-spear-shaped: *upper leaves* heart-spear-shaped, half embracing the stem. Sowerby's figure in *E. bot.* wants the lowest root-leaves, which are always egg-heart-shaped, and very unlike those in the back ground of that plate, which however, in every other respect is very good. Mr. ROBSON. It is now ascertained on the authority of the Linnæan herbarium, that this is a native with us; specimens found by Mr. ROBSON near Darlington, having been compared by Dr. Smith. *Leaves* frequently with white spots. *Blossom* purplish red when newly expanded, soon changing to blue. *Tube* white; mouth hairy.

Spotted Lungwort. Cowslips of Jerusalem. Broad-leaved Lungwort. [In Cliff Wood, about six miles West of Darlington. Mr. ROBSON. In a shady lane about a mile from Bromham,

Wiltshire. Mr. NORRIS.]—(Between Thurleigh and Milton-
Ernys, Bedfordshire. ABBOT. E.) P. April—May.*

(2) *Calyx only half as long as the tube of the blossom.*

P. Leaves egg-shaped; stem branched, trailing. maritima.

Dicks. h. s.-E. bot. 368-Curt.-Lightf. 7-Dill. elth. 65-Fl. dan. 25-Phuk. 172. 3-H. ox. xi. 28. row 2. 12-Park. 766. 5-Sibbald. 12. 4.

All the leaves sitting; upper ones oval, lower ones oval-battledore-shaped. Mr. HARRIMAN, from Mr. Robson. *Leaves* upper surface sprinkled with white prominent dots. *St. Blossom* pink, before they expand, immediately after changing to a fine blue. Mr. ATKINSON.

Sea Bugloss. Sea Lungwort. On sandy shores. [Near Maryport, Cumberland. Mr. HARRIMAN.—About Aberdeen. Mr. BROWNE.—West shore of the Isle of Walney. Mr. ATKINSON.]—(North East coast of Anglesea. Rev. H. DAVIES. *Bot. Guide.* About Aberystwith. EVANS.—Shore by the Ormes Head. Mr. A. AIKIN. *ditto.*—The Southans, Devonshire. Mr. CORNISH. *ditto.* E.) P. July.†

SYM'PHYTUM. *Bloss.* funnel-shaped, bellying towards the top: mouth closed by hollow radiate valves, which have an open hole on the outside, near the border; *nuts* 4, perforated.

S. Leaves egg-shaped, decurrent. officinale.

Ludw. 80-Kniph. 1-Curt. 230-E. bot. 817-Woodv. 215-Fl. dan. 664-Blackw. 252-Matth. 961-Dod. 134. 1-Lob. obs. 315. 1-Ger. em. 806. 1-Park. 523. 1-Ger. 660. 1 and 2-H. ox. xi. 29. row 1. 1-Pet. 29. 5-Fuchs. 695-Trag. 240-J. B. iii. 593.

(*Bunches* growing in pairs, rough with hairs, forked at the base. *Fl. Brit. E.*) *Calyx* close. *Blossom* yellow white, tube as long as the calyx. *Valves* spear-shaped, flat, covering the anthers; edge studded with small shining glands. (*Root* black on the outside. E.)

* When burnt it is said to afford a larger quantity of ashes than almost any other vegetable; often 1-7th of its weight. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it. The *Chrysomela nemorum* feeds upon it.

† (Dr. Blair attributes a narcotic power to this plant. E.)

PENTANDRIA. MONOGYNIA. Borago.

Common Comfrey. Banks of rivers and wet ditches.

P. May—June.*

Var. 2. Red-flowered. Calyx expanding, shorter than the tube of the blossom.

Kniph. 1. *f.* 2.

Symphytum patens. Sibth. Fl. Oxon. who considers it as a distinct species. Frequently found growing with the preceding, and flowering at the same time.

tubero'sum: S. Leaves half decurrent; the uppermost opposite.

Jacq. Austr. 225—*E. bot.* 1502—*Obs.* 63—*Kniph.* 1—*Clus.* ii. 166. 2—*Ger. em.* 806. 3—*H. ox.* xi. 29. row 1. 3—*J. B.* iii. 594.

Possibly a variety of the *S. officinale*. Root white, and not black on the outside as that of the preceding. LINN. Root tuberous. Blossom yellow white. (Leaves egg-shaped. E.)

Tuberous rooted Comfrey. [Fen Banks, Lincolnshire, and Cambridgeshire, intermixed with *Symphytum officinale*. WOODWARD.]—(Opposite the new well at the Water of Leith, but more plentifully in Dr. Robertson's walks at North Marchiston, near Edinburgh. Mr. YALDEN, in *Fl. Brit.*—Very plentiful in a hedge near the Parsonage at Slinfold, Sussex. Mr. BORRER, in *Bot. Guide.* apparently wild, though suspected originally to have escaped from the garden. P. June—July. E.)

BORA'GO. Bloss. wheel-shaped; mouth closed with rays: nuts 4, not perforated.

officina'lis. B. All the leaves alternate; calyxes expanding.

Kniph. 3—*Ludw.* 3—*Fuchs.* 142—*Dod.* 627. 1—*Woodv.* 217—*E. bot.* 36—*Ger. em.* 797. 2—*J. B.* iii. 574—*Blackw.* 36—*Matth.* 1186—*Trag.* 237—*Ger.* 653. 2 and 1—*H. ox.* xi. 26. 1, on the left—*Lob. obs.* 309. 2—*Ger. em.* 797. 1.

Fruit-stalks terminating; supporting several flowers. Originally from Aleppo; but now found in many parts of Europe. Blossom blue, white, or flesh-coloured. LINN. Whole plant rough with numerous white prickly hairs and sticky with mucilage. Leaves egg-spear-shaped. Blossom segments spear-shaped; the prominencies, one rising from the base of each segment, brownish, half egg-shaped. Filaments, the portion above the insertion of the anthers cylindrical, dark blue, that

* The particles of the pollen appear in the microscope like two globules united together. The leaves give a grateful flavour to cakes and panada, and the young stems and leaves are excellent when boiled. The roots are glutinous and mucilaginous, and a decoction of them is used by dyers to extract the colouring matter of gum lac. Cows and sheep eat it. Horses, goats, and swine refuse it. LINN.

below the insertion thick, brown, and glandular. *Anthers* black.

Common Borage. Walls and amongst rubbish. [Banks of the river near Tavistock. Mr. KNAPPE.—On the summit of a high rock at Llandrydno near Conway. Rev. S. DICKENSON.]

(With *white blossoms.* Entrance into Sandwich from Deal, and about Lynne Castle. DILLWYN, in *Bot. Guide.* E.)

B. Fl. Brit. P. June—Aug.*

ASPERU'GO. *Calyx*, when in fruit, the sides flat, parallel, indented.

A. Calyx when in fruit compressed.

procum'bens.

E. bot. 667—*Kniph.* 3—*Fl. dan.* 552—*H. ox.* xi. 26. 13—*Ger.*

963—*Dod.* 356—*Ger. em.* 1122. 2—*Lob. obs.* 466. 2—*Garid.*

9—*J. B.* iii. 600. 2, and 601. 2.

Stem angular. *Leaves* mostly by threes, pointing upwards. **WOODWARD.** *Blossom* small, blue.

Trailing Catchweed. *German Madwort.* In roads and amongst rubbish.—(Wangford near Brandon, Suffolk, where it was shewn to Mr. WOODWARD by Mr. EAGLE.—North side of Llandidno Rocks, descending to the Llêch; in a most perilous situation, and certainly wild. Mr. GRIFFITH.—Conflux of the Corve and Teme, Ludlow. Dr. EVANS, in *Bot. Guide.* E.)

A. April—May.

LYCOP'SIS. *Bloss.* tube crooked; mouth closed with scales: *nuts* 4, perforated.

L. *Leaves* spear-shaped, rough with hair; calyx while in flower upright. arven'sis.

Curt. 336—*E. bot.* 938—*Kniph.* 3—*Fuchs.* 269—*Dod.* 628. 2—

Ger. em. 799. 3—*J. B.* iii. 581—*H. ox.* xi. 26. 8—*Riv. mon.*

7. 2—*Fl. dan.* 435—*Blackw.* 234—*Trag.* 234.

An extremely harsh, rough, and bristly plant. *Stems* thick, cylindrical. *Leaves* sometimes nearly strap-shaped, sometimes nearly egg-shaped; waved at the edge, and somewhat toothed. *Calyx segments* sometimes spear-shaped. *Blossom* sky blue.

Wild Bugloss. *Small Bugloss.* Corn fields and road sides. [Corn fields about Ulverston, but not common. Mr. GOUGH.—Sometimes on dunghills, when the leaves are often one inch and a half broad. Dr. STOKES.]

A. June—Sept.

* By the experiments of Mr. Marggraff, *Mem. de Berlin*, 1717, p. 72, it appears that the juice affords a true nitre.—It is now seldom used inwardly but as an ingredient in cool tankards for summer drinking, though the young and tender leaves are good in salads, or as a pot-herb. It affords nourishment to the *Phalena Gamma*.—A horse eat it. Dr. STOKES.

E'CHIUM. *Bloss.* irregular; mouth naked: *nuts* 4, large, rough, imperforated.

italicum.

E. Stem upright, hairy; spikes very hairy, lateral; segments of the blossoms nearly equal; stamens extremely long.

E. bot. 2081—*Jacq. austr. app.* 16—*Dod.* 631. 2—*Lob. obs.* 312. 1—*Ger. em.* 802. 1—*H. ox.* xi. 27. 6—*Park.* 519—*J. B.* iii. 588. 1—*J. B.* iii. 584. 2. *is referred to by Ray, but it seems the α of Linn, who regards our plant as a variety of the true E. italicum.*

(This species is rather hairy than bristly, and has a much more hoary aspect than *E. vulgare*. *Flowers* white, not half so large as those of the common kind, still more nearly regular or equal, with blunt segments and very long stamens. *Calyx* excessively bristly, especially in wild specimens. *Spikes* lateral, much elongated as they ripen seed. *Flower-buds* of a pale pink before opening. *E. bot.* *E.*) *Blossom* invariably white. *HALL.*

Wall Viper-grass. White Viper's Bugloss. Sandy meadows and pastures. On the sandy ground near St. Hillary, Jersey.

P. HUDS. A. RAY.

I have not been able to procure any specimen of this plant. Botanists who have an opportunity would do well to search for it in Jersey.

B. July.

vulga're.

E. Stem rough with bristles and tubercles: stem leaves spear-shaped, rough with hair; flowers in lateral spikes, hairy.

E. bot. 191—*Kniph.* 1—*Fl. dan.* 445—*Riv. mon.* 7. 1—*Blackw.* 299—*Matth.* 996—*Dod.* 631. 1—*Lob. obs.* 312. 2—*Ger. em.* 802. 2—*Park.* 414. 1—*H. ox.* xi. 27. row 3. 1—*Matth.* 892.

Root-leaves near two feet long, strap-shaped. *Flowers* numerous, in reflected spikes; those of each spike pointing one way, and closely wedged together. *Blossom* before it expands of a fine red, afterwards of a bright blue. *Stamens* much longer than the blossom. (*Leaves* tubercled, and rough with hairs. *E.*)

Common Viper-grass. Sandy corn fields, walls and on rubbish. [Particularly on the clay or schistus thrown out of coal mines.]

*B. June—Aug.**

* Cows and sheep are not fond of it. Horses and goats refuse it. Bees are fond of the flowers. *LINN.*—But get their wings torn by its strong hairs. *SCOP.*—(This plant dried and powdered forms an ingredient of the celebrated Spanish remedy against the bites of vipers and mad dogs, particulars of which may be found in the *Month. Mag.* v. 29. p. 414. *E.*)

(Var. 1. *E. violaceum*. WITH. Ed. 3 and 4. E.)

Whole plant smaller, more slender, weak, and hairy than *E. vulgare*, but the hairs softer, some of them rising from tubercles. The tubercles hardly, if at all, discernable on the leaves; though they are on the stem, where they are intermixed with short hairs not rising from tubercles. *Calyx* very unequal. *Blossom* unequal, smaller than those of *E. vulgare*, deep blue. *Stamens* always within or just even with the blossom. Mr. WOODWARD.

Banks and corn fields. Near Norwich. WOODWARD. Aug.

PRI'MULA. *Bloss.* tube cylindrical; mouth open: stem within the tube: caps. 1-celled, cylindrical, many-seeded, opening with 10 teeth: summit a knob.

P. Leaves wrinkled, toothed; border of the blossom flat. vulga'ris.

Curt.-Sheld. 11-*Fl. dan.* 194-*E. bot.* 4-*Walc.-Blackw.* 52-*Clus.* i. 302. 1-*Dod.* 147. 3-*Lob. obs.* 305. 4-*Ger. em.* 781. 5-*Park.* 535. 1-*H. ox.* v. 24. 8 and 9-*Park. par.* 243. 1-*Col. phytob.* 6. 1.

It has a common stalk, but it is exceedingly short, and is concealed beneath the surface of the ground, so that the stems which support the flowers are only elongated little fruit-stalks. LINN. This is sometimes but not always the case, as Mr. Aikin observed to me, and Mr. Curtis tells us, that by cultivation it may be brought to throw up a long common fruit-stalk like the *Oxlip*; which countenances the idea of the latter being a variety of this. *Leaf-stalks* when fully grown, longer than the leaves. (*Blossom* pale yellowish, or sulphur colour; sweet scented. E.)

Common Primrose. *Primula veris acaulis*. LINN. *Primula sylvestris*. SCOP. *Primula vulgaris*. HUDS. Woods, hedges, thickets, and heaths, particularly in a clayey soil, (growing generally in tufts. E.) P. April—May.*

Var. 2. *Liver-coloured.* Blossoms a red liver colour.

Hedge banks and pastures, between Penzance and Treveylea, Cornwall. May.

* Gerard reports that a dram and a half of the dried roots taken up in autumn, operates as a strong but safe emetic. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it. LINN. Silk worms may be fed with the leaves. *Trans. of Soc. of Arts*, ii. p. 157. Both this and the Garden *Polyanthus* have roots which bear what the florists call pin eyed flowers, and other roots bearing only rose-eyed flowers. In the pin-eyed flower the pistil and its summit reach nearly to the mouth of the tube, so that the anthers which are placed lower down are invisible, whilst in the rose-eyed the anthers are uppermost.

ela'tior.

P. Leaves wrinkled and toothed; stalk many-flowered; outermost flowers drooping; border of the blossom flat.

E. bot. 513—*Kniph.* 1—*Fl. dan.* 434—*Fuchs.* 851—*J. B.* iii. 496. 2—*Clus.* 301. 2—*Dod.* 147. 1—*Lob. obs.* 305. 3—*Ger. em.* 780. 2—*Ger.* 635. 1—*Col. phytob.* 6. 2.

Blossom pale yellow; diameter of the border more than the length of the tube. *Leaf-stalks* shorter than the leaves.

Oxlips. *Great Cowslips.* *Oxlip Primrose.* *Primula*. HALL. n. 609. *Primula veris elatior*, LINN. *Vulgaris* β. HUDS. ed. II. *Veris* β. ed. I. Woods, hedges, and sometimes pastures. [Clayey pastures, Suffolk. Mr. WOODWARD. High pastures, near Little Wenlock, Shropshire.] P. April—May.

Dr. SMITH thinks it possible that the Oxlip may be a hybrid production between the common Primrose and the Cowslip, or that, if a variety, it rather belongs to the former than the latter. In its long common fruit-stalk it resembles the Cowslip, in its scentless flowers and the expanded border of the blossom it agrees with the Primrose.—Mr. TURNER says he has specimens in which both the Primrose and Oxlip are produced from the same root.

officina'lis.

P. Leaves wrinkled and toothed; stalk many-flowered; all the flowers drooping; border of the blossom concave.

E. bot. 5—*Kniph.* 3—*Ludw.* 43—*Fl. dan.* 433—*Blackw.* 226—*Walc.—Curt.* 67—*Fuchs.* 850—*Clus.* i. 301. 1—*Lob. obs.* 305. 1—*Ger. em.* 780. 1—*Trag.* 201—*Ger.* 635. 2.

Leaf-stalk often longer than the leaves, which is not the case in the Primrose or Oxlip. *Blossom* sweet-scented, full yellow, with an orange blotch at the base of each segment; contracted about the middle of the tube, where the stamens are inserted.

Cowslips. *Cowslip Primrose.* *Pagils.* *Primula veris officinalis*. LINN. *Veris*. HUDS. *Fl. Brit.* Meadows and pastures in loamy or clayey soil (sometimes entirely covered with this beautiful spring flower. E.) P. April—May.*

farino'sa.

P. Leaves scolloped, smooth; border of the blossom flat.

* The blossoms are used for making Cowslip wine. The leaves are sometimes eaten as a pot-herb, and in salads. The root has a fine scent, like Anise.—Silk worms are fond of the leaves and flowers. *Trans. of Soc. of Arts*, ii. p. 157.

Dicks. h. s.—*E. bot.* 6—*Curt.—Fl. dan.* 125—*Walc.—Gmel.* iv. 44. 2 and 3—*Kniph.* 9—*Ger.* 639. 2 and 1—*Clus.* i. 300. 1—*Lob. obs.* 307. 2—*Ger. em.* 783. 1—*H. ox.* v. 24. row 2. 5 and 6—*Clus.* 300. 2—*Lob. obs.* 307. 1—*Ger. em.* 783. 2—*J. B.* iii. 498. 3. *ib.* 3. 6—*H. ox. ib.* 7—*J. B. ib.* 2. *Swert.* ii. 4. 9—*Park. par.* 243. 10.

Fruit-stalks and *calyx* as if dusted with flour. LINN. *Leaves* mealy underneath. *Blossom* bluish red.

Bird's-eye Primrose. Marshes and bogs on mountains in the North. MAY. WOODWARD. [Meadows near Kendal in the richest profusion. ST. Wet places near Darlington. Mr. ROBSON.—Covering whole meadows with a fine pinky colour, about Coniston, and other parts of Craven, Yorkshire. Mr. CALEY.] —(Frequent in the mountainous pastures of Westmoreland, Durham, Cumberland and Yorkshire.—Marshes near the mouth of the river Dee, Flintshire. Mr. O. SIMS. *Bot. Guide*.

A white variety has been found near Aspatria, Cumberland, with the commoner kind, by the Rev. J. DODD. *ditto.* E.)

P. May—July.

CYCLAMEN. *Bloss.* wheel-shaped, reflected; tube very short; mouth projecting: *recept.* fleshy, supporting a berry inclosed in a case.

C. Blossom bent back as if broken; leaves circular, scol-europæum. loped.

Jacq. austr. 401—*E. bot.* 548—*Blackw.* 147—*Fuchs.* 451—*Miller,* 115—*Ger.* 694—*Dod.* 337—*Lob. ic.* 605—*Ger. em.* 843—*Park.* 1364—*Kniph.* 3—*Cam. epit.* 357.

(*Stamens* very short, concealed within the blossom. *Anthers* awl-shaped, saffron-coloured. *Style* awl-shaped. *Summit* sharp-pointed. *Fl. Brit.* E.) *Leaves* greatly varying from circular to angular. *Blossom* purplish pink.

(*Spring Cyclamen.* *Sow-bread.* On a steep bank in the parish of Bramfield, Suffolk. Mr. D. E. DAVY.—Woods at Stackpole Court, Pembrokeshire. Mr. MILNE. *Bot. Guide*.—At Langar, near the seat of Earl Howe, Nottinghamshire. Mr. GREGORY. *ditto.* E.)—Mr. Woodward assures me it has lately been found wild in Suffolk, and Gerard mentions it as growing in Wales, Lincolnshire, and Somersetshire.

P. April—May.

MENYANTHES. *Bloss.* hairy or fringed: *nect.* 5 at the base of the germen: *summit* 2-lobed: *caps.* 1-celled:

nymphæoides. *M.* Leaves heart-shaped, very-entire; blossom segments bordered, fringed with teeth.

E. bot. 217—*Fl. dan.* 339—*Tourn.* 67—*J. B.* iii. 772. 1—*Pet.* 71. 4.

Leaves heart-shaped at the base, rounded at the end; sometimes spotted. *Blossom* yellow.

Fringed Water Lily. Fringed Buckbean. Large ditches and slow streams. [Lake at Castle Howard, Yorkshire. *TEESDALE.* In the Isis near Oxford; particularly at Ferry Hincksey. *Mr. BUTT.*] Found by Lord LEWISHAM, in the Thames near Walton Bridge. *E. bot.* (In the Thames at Ankerwick, near Windsor. *Rev. Dr. GOODENOUGH,* in *Bot. Guide.* Datchet Common, plentiful. *Mr. GOTOBED.* In the Cam below Cambridge Fens, near Ely; Littleport and Old Bedford River. *RELHAN.* In the back water at Hemmingford. *ditto.* Pond in London Fields, Hackney. *Mr. J. WOODS, jun. Bot. Guide.* Wisbech river, a little before entering that town from Downham. *Mr. SKRIMSHIRE. ditto.* In the Nyne at Peterborough, plentifully. *MORTON. E.)* P. July—Aug.

trifoliata.

M. Leaves growing by threes; blossom segments entire at the edge, shaggy on the upper surface.

Curt. 240—*E. bot.* 495—*Fl. dan.* 541—*Blackw.* 474—*Woodv.* 5—*Ger.* 1024. 1 and 2—*Dod.* 580—*Lob. obs.* 496. 2—*Ger. em.* 1194—*Park.* 1212—*H. ox.* xv. 2. row 2, 1st figure on the left hand.

Leaves spear-egg-shaped. *Blossom* pinky and white, forming a spike-like bunch, with a floral-leaf at the base of each pedicle. One of the most beautiful of all our native flowers.

Water Trefoil. Marsh Cleaver. Trefoil Buckbean. Ponds and pits frequent. [Abundant in pits near Ranton Abbey, Staffordshire.] P. June—July.*

* An infusion of the leaves is extremely bitter, and is prescribed in rheumatisms and dropsies. A dram of them in powder purges and vomits. It is sometimes given to destroy worms. In a scarcity of Hops this plant is used in the North of Europe to bitter the ale: two ounces supply the place of a pound of Hops. Some people smoke the dried leaves. The powdered roots are sometimes used in Lapland instead of bread, but they are unpalatable. It has been said that it cures sheep of the rot; but from the Upsal experiments it appears, that though goats eat it, sheep seldom do. Cows, horses, and swine refuse it.

HOTTO'NIA. *Bloss.* salver-shaped: *stam.* fixed to the top of the tube: *summit* globular: *caps.* 1-celled, globular.

H. Fruit-stalks in whirls, many-flowered.

palus'tris.

Dicks. h. s.—*Curt. i.* 4—*E. bot.* 364—*Fl. dan.* 487—*Matth.* 1168—*Dod.* 584. 2 and 3—*Lob. obs.* 460. 2—*Ger. em.* 826. 1 and 2—*Park.* 1256. 4—*Ger.* 678. 1—*Gisek.* 43.

Foliage under water as in *Myriophyllum*. *Spike* of the flowers alone rising above. LINN. Some flowers have 6 stamens, and then the cup and the blossom are divided into 6 segments.

Whether we consider the lightness of its elegantly winged leaves, or its whirled spikes of lilac-coloured blossoms, it is certainly superior in beauty to the greater part of our indigenous plants.

(Mr. Hanbury has found a beautiful variety with full rose-coloured blossoms. *Fl. Brit.* and in *Bot. Guide* a similar discovery is announced by Mr. Rudge, near Kelmarsh, Northamptonshire. E.)

Water Violet. *Water Yarrow.* *Featherfoil.* Ponds and ditches. [Several places near Stratford, Essex. Mr. JONES.—Between Ormskirk and Liverpool. Dr. STOKES.—Road sides from Litchfield to Barton. Mr. PITT.—Ditches, Suffolk, frequent. Mr. WOODWARD.—In a pit by the foot road from Wellington, in Shropshire, to Leegomery.]—(Crosby, near Liverpool. Dr. BOSTOCK.—Also about Bootle and Formby in the same neighbourhood. E.) P. June—July.

LYSIMA'CHIA. *Bloss.* wheel-shaped: *caps.* globular, dagger-pointed, of 1 cell, 5 valves, and many seeds.

(1) *Fruit-stalks many-flowered.*

L. Panicked; bunches terminating.

vulgar'is.

Curt. 288—*E. bot.* 761—*Blackw.* 278—*Kniph.* 7—*Clus.* ii. 50. 2—*Dod.* 84—*Ger. em.* 474. 1—*Park.* 544. 1—*H. or.* v. 10. 14—*Matth.* 949—*Fl. dan.* 689—*Fuchs.* 492—*Trag.* 183.

Leaves smooth, or woolly, in pairs or in threes, nearly sitting, spear-shaped, waved at the edge. *Calyx* and *blossom* sometimes with 6 divisions. *Filaments* broad and united at the base into a cylinder inclosing the germen. *Flowers* yellow.

Yellow Willowherb. Yellow Loosestrife. Banks of rivers and shady marshes. [By the side of the Avon at Pershore. Mr. BALLARD.—Moist situations in Hampshire, common. Mr. PITT.]—(Near Crosby, in the neighbourhood of Liverpool. Dr. BOSTOCK.—Bottom of Bath Hills, near Bungay, and frequent in the Fens of Suffolk and Cambridgeshire. Mr. WOODWARD. E.) P. June—July.

thyrsiflo'ra. L. Bunches lateral, on fruit-stalks.

E. bot. 176—*Fl. dan.* 517—*Clus.* 53. 1—*Ger. em.* 475. 3—*Baier. epist. at p.* 91, and 162, *f.* 1—*Clus.* 53. 2—*Park.* 544. 3—*J. B.* ii. 904. 2—*Dod.* 607. 1.

Lateral branches in an upright plant is a peculiar circumstance. *Blossom* divided almost to the base, with very short teeth interposed; *segments* marked at the end with tawney dots. LINN. *Stem* never branched. WEBER. Hardly a foot high. *Leaves* opposite, sitting, spear-shaped, half embracing the stem. *Blossom* yellow, segments with red dots. The number of the stamens, of the segments of the cup, and of the blossom, varies from five to eight.

Tufted Loosestrife. (By the side of Loch Lomond; in a bog close to the town of Forfar; and plentiful by the side of a lake four miles east of Forfar. Mr. MACKAY.—Llyn Llechyllched, Anglesea. Mr. LHWYD; and woods near Stockport. Mr. G. HOLME. *Bot. Guide.* E.)—[Marshes and banks of rivers, near King's Langley, Hertfordshire. In a bog near Severus's Hills, near York. Dr. WHITE.—But the bog having been since drained, it is no longer to be found there, as the Doctor informs me. Dr. SMITH.] P. June.

(2) *Fruit-stalks 1-flowered.*

nemo'rum. L. Leaves egg-shaped, acute; flowers solitary stem trailing.

Curt. 328—*E. bot.* 527—*Fl. dan.* 174—*Clus.* ii. 182. 2—*Lob. obs.* 248. 2—*Ger. em.* 618. 4—*Park.* 558. 5—*H. ex.* v. 26. row 2. 1, 2—*Ger.* 494. 3.

Stem cylindrical. *Calyx* segments very slender. *Blossom* yellow, much smaller than the leaves.

Yellow Pimpernel. Wood Loosestrife. Moist shady places. P. May—July.

pummu-
la'ria. L. Leaves somewhat heart-shaped; flowers solitary; stem creeping.

E. bot. 528—*Ludw.* 148—*Curt.* 149—*Kniph.* 8—*Fl. dan.* 493—*Blackw.* 542—*Walc.—Trag.* 808—*Fuchs.* 401—*J. B.* iii. 371. 1—*Ger.* 505. 2—*Matth.* 1013—*Dod.* 600. 2—*Lob. obs.* 251. 1—*Ger. em.* 630. 1—*Park.* 555. 1—*Park.* 555. 1. (6) —*H. ox.* v. 26. row 1. 1, *Numularia*—*Ger.* 505 1.

With a microscope glands on pedicles may be observed covering the blossom, and likewise on the stamens. *Fl. Brit. E.*)

Stem compressed, with four membranaceous edges. *Calyx* segments spear-shaped. *Blossom* yellow, as large as the leaves.

Money-wort. Herb Twopence. Moneywort Loosestrife. Moist meadows. [Near a brook which crosses the Meriden road, about two miles from Birmingham.] P. June.

ANAGALLIS. *Bloss.* wheel-shaped: *caps.* cut round; of 1 cell, and many seeds.

A. Leaves egg-spear-shaped; stem trailing; calyx segments spear-shaped.

Var. 1. Blossoms scarlet.

E. bot. 529. (but the blossom is incorrectly represented as fringed rather than crenate, as Dr. Smith has since remarked. *E.*)—*Kniph.* 6—*Curt.* 1. 1—*Fl. dan.* 88—*Trag.* 388—*Blackw.* 43—*Fuchs.* 18—*J. B.* iii. 369. 2—*Dod.* 32. 1—*Lob. obs.* 247. 2—*Ger. em.* 617. 1—*Park.* 558. 1—*Walc.—H. ox.* v. 26. row 2. 5—*Matth.* 621—*Ger.* 494. 1.

Male Pimpernel. Scarlet Pimpernel. Cornfields and sandy places, not uncommon. A. May—Aug.*

Var. 2. Blossoms blue.

E. bot. 1823—*Blackw.* 274—*Fuchs.* 19—*J. B.* iii. 369. 1—*Clus.* ii. 183. 1—*Dod.* 32. 2—*Lob. obs.* 248. 1—*Ger. em.* 617. 2—*Matth.* 622.

Blue Pimpernel. Female Pimpernel. A. cerulæa. Schreb. and Gmel. *syst. veg.* Abbot. 46. Between Stockwell and Camberwell. HUDSON. Bredon Hill, in a corn field at the top of Overbury Wood, Worcestershire. NASH. [Dawlish, Devonshire, also between Bath and Bradford. Mr. MARTYN.]—(Found among corn at Brington, Huntingdonshire, by Mr. Favell, and removed into his garden, where it remained unchanged several years. Mr. WOODWARD.—In fields at Great Saxham, Suffolk. Mr. LEATHES, in *E. bot. E.*)

It is also said sometimes to have white flowers, with a purple eye. *Leaves* dotted underneath; mostly opposite, sometimes four together. *Fruit-stalk* not twice the length of the leaves.

* Collected before the flowers expand, useful in epilepsy and melancholia. Powder gr. xx. four times a day. STOLL.

Filaments united at the base. *Capsules* marked with five lines as if the seams of so many valves, but it always separates transversely into two parts.

Every part of this plant is singularly beautiful, and will amply repay the trouble of a minute examination.

tenell'a.

A. Leaves egg-shaped, rather acute; stem creeping, striking root at the joints.

Dicks. h. s.—*Curt.* 187—*E. bot.* 530—*Fl. dan.* 1085—*H. ox.* v. 26. row 1. 2—*Ger. em.* 630. 3—*Park.* 554. 2—*J. B.* 371. 2.

Leaves not dotted underneath; egg-shaped, or heart-shaped, or circular. *Fruit-stalks* more than twice the length of the leaves. *Blossom* pale purplish red, each segment marked with seven darker streaks.

Purple-flowered Moneywort. Bog Pimpernel. Wet heaths, meadows, and turf bogs.—In Suffolk, frequent. Mr. WOODWARD.—(Crosby Marsh, Garston, and Green Bank, in the neighbourhood of Liverpool. Dr. BOSTOCK. E.)—Tittensor Hills, and Cannock Heath, Staffordshire. ST.—Upper pool at Soho, near Birmingham, in the turf by the side. Needwood Forest, Staffordshire. P. July—Aug.—Sept.

AZA'LEA. *Bloss.* bell-shaped: *stem* fixed to the receptacle: *caps.* 2 to 5-celled: many seeded.

procum'-
bens.

A. Branches spreading wide, and trailing.

E. bot. 865—*Linn. lapp.* 6. 2—*Clus.* i. 75. 3—*J. B.* i. α 527—*Jonst.* 116. 8—*Fl. dan.* 9—*Penn. tour in Scotl.* ii. 5. p. 43.

Flowers bright red. LIGHTFOOT. (*Leaves* opposite, very smooth, rolled back. *Stems* woody, intermixed, very much branched. *Fl. Brit.* E.)

Trailing Rosebay. Highland mountains, on dry barren ground, near their summit. [Ben Lomond near the top. Found there first by the Rev. Mr. Stuart, of Luss. Dr. SMITH. In abundance on Ben Bourde, on Lochain y Gair near Invercauld; more sparingly on Ben Lawers, Ben Teskerny, and on Malghyrdy. Mr. BROWN.] S. July.

CONVOL'VULUS. *Bloss.* bell-shaped, plaited: *nect.* surrounding the base of the germen: *summits* 2: *caps.* 2 or 3-celled, 2 seeds in each.

(1) *Stem twining.*

C. Leaves arrow-shaped, acute on each side: fruit-stalks arven'sis.
bearing generally 1 flower.

Curt. 119—*Kniph.* 12—*Fl. dan.* 459—*Walc.*—*Fuchs.* 253—*J. B.*
ii. 157—*Trag.* 806—*Ger.* 712. 2—*Clus.* ii. 50. 1—*Dod.* 393—
Lob. obs. 340. 2—*Ger. em.* 861. 2—*Park.* 171. 2—*H. or.* 1.
3. 9.

(*Floral-leaves* very small, distant from the flower. *Fl. Brit.*
E.)—*Blossom* flesh-coloured, or almost white, or striped, or
purplish.

Small Bindweed. Cornfields and road sides. P. June—July.

Var. 2. Leaves arrow-strap-shaped.

Pluk. 24: 3.

Both leaves and flowers smaller.

Between Harleston and Eversden, Cambridgeshire. RAY.

Var. 3. Blossom very small, almost divided to the base.

Near Maidstone. RAY.

C. Leaves arrow-shaped, lopped at the base; fruit-stalk se'pium.
4-cornered, bearing 1 flower.

E. bot. 313—*Curt.*—*Fl. dan.* 458—*Sheldr.* 56—*Blackw.* 38—
Kniph. 12—*Dod.* 392—*Lob. obs.* 340. 1—*Ger. em.* 861. 1—
Park. 163. 3—*H. or.* i. 3. 6—*Ger.* 712. 1—*Fuchs.* 720—*J. B.*
ii. 154—*Trag.* 805—*Blair.* 4. 3—*Swert.* ii. 14. 8—*Walc.* 5.

Edges of the leaves brown. Blossom white. LINN. *Floral-*
leaves 2, close to the cup, whilst in the preceding species they
are at some distance below it. The large size of its fine milk-
white blossoms makes it a beautiful ornament to our hedges.

Great Bindweed. Moist hedges.

P. July—Aug.*

(2) *Stem not twining.*

C. Leaves kidney-shaped; fruit-stalks with 1 flower. Soldanel'la.

E. bot. 314—*Matth.* 469—*Dod.* 395—*Lob. obs.* 329. 2—*Ger. em.*
838. 1—*Park.* 168. 2. 6—*H. or.* i. 3. 2—*Ger.* 690.

* The inspissated juice of the plant, in doses of 20 or 30 grains, is a
powerful drastic purge. Scammony is the inspissated juice of a species
of *Convolvulus* so much resembling this, that they are with difficulty
distinguished. Though an acrid purgative to the human race, it is eaten
by hogs in large quantities without any detriment. Sheep, goats, and
horses eat it. Cows refuse it.

PENTANDRIA. MONOGYNIA. *Polemonium*.

(*Seeds* large, angular. *Capsule* roundish. *Flowers* soon falling off after being exposed to the meridian sun. *Fl. Brit. E.*) *Stems* in open ground short, and lying flat, taking a semi-circular direction; but among bushes growing to some length unbranched, bearing no flowers. *Leaves* sometimes heart-shaped. *Leaf-stalks* long. Mr. WOODWARD. *Blossoms* red. At some distance from the sea, not above half the usual size, but the plant in other respects the same.

Scottish Scurvy Grass. Sea Colewort. Sea Bindweed. Sea shore. Norfolk coast, frequent. Mr. WOODWARD.—Walney Isle. Mr. DALTON.—(At Bank Hall, and Garston, in the neighbourhood of Liverpool. Dr. BOSTOCK and Mr. SHEPHERD. E.)—Near the sea coast, Cornwall. P. July.*

POLEMO'NIUM. *Bloss.* wheel-shaped, with 5 divisions: *filaments* broad and membranaceous at the base: *summit* 3-cleft: *caps.* 3-celled, opening at the top: *seeds* angular.

cœru'leum. P. *Leaves* winged; flowers upright; calyx longer than the tube of the blossom.

E. bot. 14—*Kniph.* 5—*Tourn.* 61. 1—*Fl. dan.* 255—*Dod.* 352. 1—*Lob. obs.* 412. 1—*Ger. em.* 1076. 5—*Park.* 123. 12—*J. B.* iii. 212. 2—*Ger.* 918. 5—*Swert.* ii. 28. 3.

(*Stem* upright, two feet high, leafy, bearing panicles. *Fl. Brit. E.*)—*Little leaves* egg-spear-shaped; eleven pair or more on each leaf. *Blossom* blue, sometimes white.

Greek Valerian. Jacob's Ladder. [Malham Cove, Yorkshire. RAY and Mr. WOODWARD. And at the Lover's Leap, Buxton. Mr. WOOD.—Near Bakewell. Mr. WHATELY.—Gordale, Yorkshire. Mr. GOUGH.]—(Near the plantations under the Ochre Pits at Shotover Hill, Oxfordshire. SIBTHORPE. E.) P. June.

CAMPA'NULA. *Bloss.* bell-shaped: *filaments* broad and arched at the base: *summit* 3-cleft: *caps.* beneath; 3-celled; opening at 3 lateral holes.

(1) *Leaves* smoother and narrower.

† Half an ounce of the juice, or a dram of the powder, is an acrid purge. The leaves applied externally are said to diminish dropsical swellings of the feet. The different species furnish nourishment to the *Sphinx convolvuli* and *Phalæna Elpenor*.

C. Root-leaves kidney-shaped; stem-leaves strap-shaped, rotundifolia, very entire.

Curt. 226—*E. bot.* 866—*Fl. dan.* 1086—*Walc.—Clus.* ii. 173—*Dod.* 167—*Lob. obs.* 178. 1—*Ger. em.* 452. 3—*Park.* 651. 11—*H. ox.* v. 2. 17—*J. B.* ii. 810. 1, and 796—*Ger.* 367. 3—*Allioni.* 47. 2.

Unless the root-leaves be carefully searched for, they will scarcely be observed, and then the plant may easily be mistaken for the *C. patula*. Stem round and smooth. Root-leaves sometimes entire, sometimes notched, varying from kidney to heart-shaped. Stem-leaves varying from strap-spear-shaped to thread-shaped, and the broader ones sometimes with a few serratures. Blossom blue, purple, or white.

Round-leaved Bell-flower. Heaths, road sides, and hedge banks, barren pastures, mostly in a dry soil. P. Aug.—Oct.

Var. 2. Single flowered.

Fl. dan. 189.

Root-leaves heart-shaped, very entire; stem-leaves spear-shaped.

Highest mountains of Wales and Westmoreland. HUDSON. Hill of Moncrief, near Perth. LIGHTFOOT. [Skiddaw. Mr. WOODWARD.]

C. Leaves stiff and straight; root-leaves spear-egg-shaped; patula, panicle expanding.

E. bot. 42—*Dill.* 58. 68—*Fl. dan.* 373.

Stem with 5 corners and 5 flat sides, roughish with short hairs, containing a milky juice. Leaves sometimes toothed, sometimes finely serrated. Cup segments towards the base serrated with minute teeth, but my specimens do not shew the livid tooth on each side the base mentioned by Linnæus. Blossom conical, larger, more of a reddish purple than in the preceding species, more expanded at the mouth, segments curved backwards, and each marked with 3 lines. Whether the plant be in flower or not, these observations are at all times sufficient to discriminate it from the *C. rotundifolia*.

Spreading Bell-flower. Field Bell-flower. Woods, hedges, corn fields, and road sides, in a moist soil. [Borders of Buddon Wood, near Loughborough; between Lichfield and Meriden; and about Worcester. HUDSON.—And Malvern. NASH.—Near the Bath at Lichfield; and on the road to Coleshill. Mr. WOODWARD.—On the road side in a wet lane in the village called Water Orton. Near Hagley on the Kidderminster road, plentiful. On the left hand side of the Meriden road about six miles from Birmingham.]—(Frequent in the neighbourhood of

Crickhowel, Brecknockshire. Rev. T. BUTT, in *Bot. Guide*.—In the woods above Corfe Mullein; and lanes near Merly, Rev. Sir H. PARKER, *ditto*.—Near Holt, in the way to Binham, Norfolk. Rev. R. B. FRANCIS, *ditto*.—Montford bridge bank, Shropshire; Ceynham Camp, near Ludlow. Dr. EVANS, *ditto*.—Banks bordering the road to Castle Cary, not 200 yards from Bewton, Somersetshire. MATON, *ditto*.—In the park at Cobham. Dr. SMITH. E.) *ditto* B. July—Aug.

Rapun'culus. C. Leaves waved; root-leaves spear-oval; panicle compact.

Fl. dan. 855—*E. bot.* 283—*Kniph.* 11—*Dod.* 165. 1—*Lob. obs.* 178. 2—*Ger. em.* 453—*Park.* 648. 1—*H. ox.* v. 2. 13—*Fuchs.* 214—*J. B.* ii. 795—*Ger.* 369. 2—*Trag.* 727.

Fruit-stalk generally growing by threes, the middle one the longest. LINN. Resembles the *C. patula* in the roughness of its angular stem, its milky juice, the size of its blossoms, and the 3 lines on their segments, but may be distinguished from it by the flowers and fruit-stalks being nearly upright, not expanding, by the segments of the calyx being bristle-shaped, not spear-shaped, and by the stipulæ on the fruit-stalks being very slender and half the length of the fruit-stalk, whilst in the *C. patula* they are spear-shaped and short. *Blossom* purplish blue, sometimes very pale.

Rampion Bell-flower. Rampions. Hedge-banks, fallow fields. [Old Buckenham Castle, Norfolk. Mr. PITCHFORD.—Hindlip, Worcestershire. St. and Enville, Staffordshire.]—(Hedges between Bexley and Dartford Heath. Mr. E. FORSTER, jun. in *Bot. Guide*.—In Enfield Church-yard. Mr. T. F. FORSTER, jun. *ditto*.—About Beddington, Surrey. Mr. BORRER; and on Duppa's Hill, by Croydon. Mr. S. WOODS, *ditto*.—Hedges at Wressle, near Howden. Rev. Archdeacon PIERSON, *ditto*. E.) B. July—Aug.*

(2) *Leaves rougher and broader.*

latifolia. C. Leaves egg-spear-shaped; stem unbranched, cylindrical; flowers solitary, on fruit-stalks; fruit drooping.

E. bot. 302—*Fl. dan.* 782—*Clus.* ii. 172. 1—*Ger. em.* 448. 3—*Park.* 643. 1—*H. ox.* v. 3. 27.

Sometimes 4 feet high, and very strong in its growth. *Stem* smooth. *Leaves* either spear-shaped or egg-spear-shaped, almost sitting, rough with hairs, irregularly serrated. *Flowers* upright,

* The roots are eaten raw in sallads, or boiled like Asparagus. In gardens they are blanched.

but the fruit-stalk when ripe bent downwards; and the calyx becomes large and globular at the base from the distension of the inclosed capsule. Blossom blue or pale red.

Broad-leaved Bell-flower. Giant Throatwort. Thickets and hedges. Mountainous parts of the Northern Counties. RAY. [Clayey parts of Suffolk. WOODWARD. Woods about Manchester. Mr. CALEY. On banks of marle at Burton, one mile S. of Stafford. On the road from Hales Owen Abbey to Birmingham, a mile from the former, on a shivery sand rock.]

P. July—Aug.*

(C. Leaves heart-spear-shaped; stem branched; flowers rapunculoïd-scattered, pointing one way, nodding; calyx bent des. back.

E. bot. 1369—*H. ox. vol.* 2. t. 3. f. 32.

Stem upright, branched upwards, leafy, cylindrical, slightly hairy, hairs stiffly bent back. *Leaves* unequally serrated, rough; the lower ones having leaf-stalks; the upper ones sitting. *Blossom*, the size of *C. Rapunculus*, blue. *Calyx* rough; segments spear-shaped, very entire, reflected. *Fl. Brit.*

Creeping Bell-flower. A very rare plant; discovered at Blair, in Scotland, by FENWICK SKRIMSHIRE, M. D.—In some woods in Oxfordshire, among Yew Trees. Herb. Buddl. *Fl. Brit.* P. Aug. E.)

C. Stem angular; leaves on leaf-stalks; cups fringed; trachelium. fruit-stalks 3-cleft.

Fl. dan. 1026—*E. bot.* 12—*Chus.* ii. 170. 2—*Dod.* 164. 1—*Lob. obs.* 176. 2—*Ger. em.* 448. n. 1—*Ger.* 364. 1—*Fuchs.* 432—*Trag.* 927—*J. B.* ii, 805. 2—*H. ox.* v. 3. 28—*Swert.* ii. 16. 4. 5.

Stem branched, hairy and membranaceous at the corners. *Leaves* heart-spear-shaped, upper ones sitting, lower ones on leaf-stalks. Mr. Woodward has sometimes observed two flowers on a fruit-stalk in the *C. latifolia*, and only one on the *C. trachelium*, and Dr. Stokes has found the calyx in the latter almost without hairs, as represented in Sowerby's fig. in *E. bot.* 12; so that the Linnæan characters are hardly sufficient in all cases to discriminate these two species; but the membranaceous angles of the stem, and the different heart-spear-shaped leaves of the

* The beauty of its flowers frequently procures it a place in our gardens. The whole plant abounds with a milky liquor. Horses, sheep, and goats eat it. The young shoots stripped of the skin are boiled and eaten as greens, about Kendal. Mr. GOUGH.

C. trachelium are at all times sufficient to distinguish it from the *C. latifolia*. Blossom hairy within; blue, sometimes pale red; not unfrequently double, and when this is the case the stamens and nectaries are wanting.

Great Throatwort. Canterbury Bells. Nettle-leaved Bell-flower. Woods and hedges. P. July—Aug.

Very common in gardens. The juice a dirty yellow. (Frequent in the neighbourhood of Canterbury, Dover, and other parts of Kent. E.)

glomerata. C. Stem angular, not branched; flowers sitting; mostly terminating.

E. bot. 90—*J. B.* ii. 801. 2—*Clus.* ii. 171. 1—*Dod.* 164. 2—*Lob. obs.* 176. 3—*Ger. em.* 449. 4—*Park.* 644, fig. 4th—*H. ox.* v. 4. 40 § 43—*Herm. par.* 235—*Thal.* 8. 2—*Barr.* 523. 3.

Leaves egg-oblong, sitting, bluntish. One flower in the bosom of each of the three upper leaves, the others forming a terminating cluster. *Linn.* *Root* perennial, branched, fibrous. *Stem* generally eight or ten inches high. *Leaves* spear-shaped, hairy, somewhat serrated; the lower leaves on the larger plants on long leaf-stalks, and sometimes heart-shaped at the base. *Calyx* segments hairy, sometimes toothed. *Blossom* blue, or white; not unfrequently both on the same plant; hairy within. *Stamens* either four or five. *Style* long, woolly, slightly cloven either into two or three fleshy, villose, spear-shaped summits.

Few plants vary more than this both in size and in habit. In general it attains from one and a half to one foot in height; is hairy and dry; but in the wet climate of Kendal Mr. Gough has observed it two feet high, with a trailing stem, green, and but little hairy. I have gathered it when growing on a high and very dry soil, as on the summit of Aston Down in the Isle of Wight, only from one to two inches high (see Pl. 11. f. 8.) when it can scarcely be said to have a stem; bears only one or two flowers, with four stamens and frequently but two summits. In the summer of 1795 Mr. Watt brought me a series of specimens from the Isle of Wight from one to ten inches high, and soon afterwards Mr. Turner informed me that on barren Limestone Hills in Norfolk it grows equally diminutive; though the blossom as he observes, is as large as in the largest specimens, which he has sometimes seen above two feet high.

Little Throatwort, or Canterbury Bells. Clustered Bell-flower. Mountains and chalky pastures. [Near Pontefract. Mr. T. F.]

HILL.—Chalk Hills, in Norfolk. Mr. WOODWARD; and Surrey; and between Grantham and Wilham Common. **ST.**—On the Fife and Angus coasts, not unfrequent. Mr. BROWN.]—(Close to Stonehenge, on Salisbury plain, very diminutive. Mr. CALEY. E.) P. July.

(3) *Capsules covered by the reflected segments of the calyx.*

C. Leaves heart-shaped, 5-lobed, on leaf-stalks, smooth; hederacea. stem feeble.

Dicks. h. s.—*E. bot.* 73—*J. B.* ii. 797—*H. ox.* v. 2. 18—*Pluk.* 23. 1—*Pet. Gaz.* 51. 2—*Fl. dan.* 330.

Stems thread-shaped, trailing, matted together, in patches of a foot diameter. Mr. WATT.—*Lower leaves* heart or kidney-shaped, nearly entire. Mr. WOODWARD. *Leaves* with five to eight teeth, but not properly lobed. Mr. STACKHOUSE. The delicacy and transparency of this elegant little plant sufficiently separate it from all our other species. *Blossom* pale blue.

Ivy-leaved Bell-flower. Moist shady places. [About springs and rivulets in Cornwall, very frequent. Mr. WATT. Woods in Oxfordshire. Mr. NEWBERRY. Roxborough Common, near Plymouth, plentiful. Mr. KNAPPE.]—(On Whalebridge Common, near Linfield, Sussex. Mr. BORRER, in *Bot. Guide.*—On the side of the great bog leading from Eridge Rocks to Groombridge. Mr. FORSTER; and Fairlight Common, near Hastings. Mr. J. WOODS, jun. *ditto.*—In a small swampy place on Maiden Down, opposite the Maidenhead Inn, Somersetshire. Mr. SOLE.—By the side of the path leading down to Rhyader y Wenol, (the Swallow's Cataract,) a fall of the Llygwy, between Capel Curig and Bettws, North Wales. E.) P. May—Aug.

(4) *Capsules prism-shaped.*

C. Stem stiff and straight, somewhat branched at the base: leaves oblong, scolloped: cups incorporated, and longer than the blossom. hy'brida.

E. bot. 373—*Ger. em.* 439. 2—*Park.* 1331. 2—*H. ox.* v. 2. 22.

(*Capsule* prism-shaped. *Fl. Brit.* E.) *Calyx* segments permanent, crowning the ripe capsule. Mr. WOODWARD. *Blossom* purple; deeply divided. The great length of the capsule, and the segments of the calyx reaching above the top of the

blossom, at once distinguish this from every other British *Campanula*.*

(Dr. Smith observes that the *C. speculum* is scarcely different, unless from its larger blossom, and more branched stem. E.)

Lesser Venus' Looking Glass. Corn Bell-flower. Chalky corn fields. [Bury and elsewhere in Suffolk, in chalky corn fields, Mr. WOODWARD.] A July—Aug.†

PHYTEU'MA. *Bloss.* wheel-shaped, with 5 divisions: *segments* strap-shaped: *summits* 2 or 3-cleft: *caps.* beneath, 2 or 3-celled; a hole opening at the side of each,

orbicul'ris. P. Flowers in a roundish head; floral-leaves spear-strap-shaped, fringed.

Dicks. h. s.—E. bot. 142—*Jacq. austr.* 437—*Col. ecphr.* 224—*Barr.* 525—*Riv. mon.* 109. 1—*H. ox. v.* 5. 47—*Ger. em.* 455. 5.

About a foot high. *Root-leaves* heart-spear-shaped. *Blossom* blue.

(A variety with white blossoms is recorded by Dr. PULTENEY as growing about Buriton, in Hampshire. E.)

Round-headed Rampion. Chalky pastures. Downs of Sussex and Hampshire. Near Leatherhead. P. July—Aug.

LOBE'LIA. *Cal.* 5-cleft: *bloss.* 1 petal, irregular, divided lengthwise on the back: *anthers* somewhat united: *caps.* 2 to 5-celled; beneath.

Dortman'na. L. Leaves strap-shaped, very entire, containing 2 cells; stem almost naked.

Dicks. h. s.—E. bot. 140—*Fl. dan.* 39—*Lightf.* 21. at p. 505—*Clus. cur.* 40—*Park.* 1250—*Pet.* 67. 7.

Whole *plant*, even the leaves beneath the water, milky. LINN. *Root* fibrous; fibres numerous, hair-like. *Stem* upright,

* It appears that Linnæus had good reason for considering this as a plant having no very permanent character, for Mr. ROBSON, having sown it in his garden, it produced plenty of luxuriant plants which ripened their seeds; but these seeds the following year produced plants, the greater number of which were *C. speculum*, and the rest a sort of intermediate plant with smaller flowers than the latter, but larger than the former.

† *Phalaena exsoleta* feeds upon the different species of *CAMPANULA*.

cylindrical, hollow, smooth, 12 to 18 inches high, naked, except three or four oval sitting scales, about a quarter of an inch long. *Leaves* in a circle at the bottom of the water, numerous, about 2 inches long, bowed back at the end with an elegant curve, smooth, green, composed of 2 hollow parallel tubes. *Flowers* as many as nine in a loose bunch, rising above the water, from one half to one inch asunder. *Fruit-stalks* slender, about half an inch long; from the bosom of a flower-scale. *Flower-scales* similar to the scales on the stem. *Calyx* divided into five strap-shaped segments. *Blossom* pale blue, three quarters of an inch long; *upper lip* upright; *lower*, segments oval, bent back, the middlemost the largest and longest. WOODWARD.

Water Gladiol. *Cardinal-flower.* Lakes in mountainous countries, as those of Wales, Westmoreland, Cumberland, and Scotland. Coniston Water & Winandermere. Mr. WOODWARD.—Loch Lomond. Dr. HOPE.—White Meer, near Ellesmere, (and about Llyn Idwall and Llyn Ogwen, between Capel Currig and Bangor, North Wales. Mr. GRIFFITH.—Bomere Pool near Shrewsbury. Dr. EVANS, in *Bot. Guide.* E.) P. July—Aug.

L. Stem nearly upright; lower leaves roundish, scalloped; u'rens. the upper spear-shaped, serrated; flowers in bunches.

Curt.—E. bot. 953—*Bocc. rar.* 11. 3—*H. ox. v.* 5. 56,

Stem straight, simple, a foot high, rather bare, the corners rough. *Root-leaves* elliptical, smooth, bluntish, somewhat toothed; *stem-leaves* far asunder, eight, sitting, as it were glued to at the base, sharply serrated, smooth, distant. *Bunch* terminating, quite straight. *Flowers* upright, distant. *Calyx* 5-cleft, rough; segments awl-shaped, upright. *Blossom* blue, rough, the palate with two pale blotches; segments of the lower lip spear-shaped, hanging down. LINN. Whole plant milky, of a warm taste, and if chewed excites a pungent sense of burning in the tongue, BOCCON. especially the root. MORIS. II. 467. n. 56.

Acrid Lobelia. Mountainous meadows. [Shute Common, between Axminster and Honiton, Devonshire. Mr. NEWBERRY.] —(On the slope of a heath called Kilmington Hill, two miles from Axminster, close to the road, Lord Webb Seymour. CURTIS.—This very scarce plant has likewise been found (in 1800) by Miss BURGESS, near the town of Ottery St. Mary, in Devonshire. *E. bot.* E.) A. July—Aug.—P. Sept. E. bot.

SA'MOLUS. Bloss. salver-shaped: *stamens* protected by the valves of the blossom: *caps.* 1-celled; beneath; opening with 5 valves at the top.

Valeran'di. (S. Leaves blunt; bunch with many flowers. E.)

E. bot. 703—*Fl. dan.* 198—*Kniph.* 4—*Curt.* 268—*Lob. obs.* 249.
1—*Ger. em.* 620. 3—*Park.* 1237. 5—*J. B.* iii. 792. 1—*H. ox.*
iii. 24, 26, and 28.

(*Calyx* bell-shaped. *Seeds* numerous, angular. *Fl. Brit.* E.)
Nearly a foot high. *Leaves* spear-egg-shaped, very entire.
Spike-like bunch of flowers 2 to 4 inches long. *Blossom* white,
small.

Round-leaved Water Pimpernel. Pimpernel Brookweed.
Marshes and moist meadows.—[In the large ditches leading from
Poplar to the Isle of Dogs, opposite to Greenwich. Mr. JONES.
—Side of the brook running from the brine pit on Defford Com-
mon, Worcestershire. Messrs. BALLARD and HOLLEFEAR.—
Lord Shelburne's Park, near Calne, Wiltshire. Dr. STOKES.—
Salt marshes about Lyminster.] P. June—July.*

LONICE'RA. *Bloss.* 1 petal, tubular, irregular:
berry beneath; 1 to 3-celled; many-seeded.

(caprifolium. L. Blossoms gaping, growing in whirls, terminating; leaves
deciduous; the upper ones united at the base, and
perforated.

Jacq. austr. t. 357—*E. bot.* 799—*Cam. epit.* 713—*Ger. em.* 891.

Stem woody, twining. *Branches* mostly opposite, cylindrical,
smooth. *Leaves* almost all united at the base, egg-shaped,
blunt, very entire, smooth, rather glaucous on the under side;
the upper ones perfoliate, roundish. *Blossoms* yellowish, red-
dish at the base, sweet scented. *Berries* red, crowned with the
calyx almost entire. *Fl. Brit.*

Pale perfoliate Honeysuckle. In a wood near Elsfeld, Ox-
fordshire, plentifully. Rev. Mr. BUTT.—In Chalk-pit Close,
Hinton, Cambridgeshire, certainly wild; also in another coppice
in the same parish. Rev. R. RELHAN. S. May—June. E.)

Pericly'me- L. Heads egg-shaped, tiled, terminating; leaves distinct,
num. deciduous; blossom gaping.

Curt. 1. 1—*E. bot.* 800—*Kniph.* 8—*Fl. dan.* 908—*Riv.* 122—
Blackw. 25—*Fuchs.* 646—*Trag.* 822—*J. B.* ii. 104. 1—*Ger.*

* Dr. Smith observes, with Linnæus, that the Water Pimpernel is found
in almost every part of the globe, and under very different latitudes. We have
had occasion to remark that this circumstance, however uncommon with
plants, as well as animals in general, happens to several aquatics. *E. bot.*

743. 1—*Dod.* 411. 1—*Lob. obs.* 358. 1—*Ger. em.* 891. 1—*Park.* 1460. 1.

(*Stem* woody, twining. *Branches* opposite, cylindrical. *Leaves* opposite, on small leaf-stalks, oval, very entire, often slightly pubescent, glaucous underneath. *Fl. Brit. E.*) *Blossom* lower segment divided twice as deep as the rest. *Leaves* and stem smooth. LINN. *Blossom* red on the outside; yellowish within. *Berries* red.

*Common Honeysuckle. Woodbine. Hedges. S. May—July.**

Var. 2. Leaves indented.

[In the woods of Lord Wodehouse, Norfolk. Mr. WOODWARD.]

L. Fruit-stalks 2-flowered; berries distinct; leaves very Xylo'steum. entire, pubescent.

E. bot. 916—*Riv. mon.* 120—*Fl. dan.* 808—*Clus.* 58. 1—*Lob. ic.* 633. 2—*Dod.* 412. 1—*Ger. em.* 1294. 1.

A shrub 6 or 8 feet high. (*Stem* upright. E.) *Leaves* mostly egg-shaped, in opposite pairs, three pairs on each branch; rather soft and cloth-like to the touch. *Fruit-stalks* opposite, axillary. *Blossom* yellow; upper lip 4-cleft, lower lip strap-shaped, entire. *Filaments* woolly.

Upright Honeysuckle. (In the fissures of rocks under the Roman Wall near Shearing Sheels, Northumberland. WALLIS. Plentifully, and certainly wild, in a coppice called the Hacketts, to the east of Houghton bridge, four miles from Arundel, Sussex. Mr. W. BORRER.—In the wood on the S. W. side of the lake in Edgbaston Park, near Birmingham. E.) S. May.†

JASIO'NE. Common *calyx* 10-leaved: *cup* proper 5-toothed: *bloss.* 5 petals, regular: *anthers* united: *caps.* beneath; 2-celled; many-seeded, opening at the top, crowned by the proper cup.

* The beauty and fragrance of its flowers render it a pleasing ornament to our gardens, hedges, and arbours. Cows, goats, and sheep eat it, horses refuse it. *Sphinx Ligustri*, and *tipuliformis*; and *Phalæna dydactyla*, and *hexadactyla* feed upon it.

† In the north of Europe it seems a common plant; Linnæus informs us it makes excellent garden hedges in a dry soil: that the clear parts between the joints of the shoots are used in Sweden as tubes for tobacco pipes, and that the wood being extremely hard, makes teeth for rakes, &c.

monta'na. J. Leaves strap-shaped, very entire.

Kniph. 12—*Curt.* 245—*E. bot.* 882—*Fl. dan.* 319—*Col. ecphr.* 227—*H. ox. v.* 5. 48—*Pet.* 5. 2—*Dod.* 122. 2—*Lob. obs.* 291. 3. *ic.* 1. 536. 2—*Ger. em.* 723. 12.

Stem a foot high or more; cloathed with leaves for somewhat more than one third of its height; above naked. *Branches* several, from amongst the upper leaves, alternate, much shorter and slenderer than the stem. *Leaves* strap, or strap-spear-shaped, sitting, waved at the edge, hairy, pointing upwards, sometimes, though rarely, with here and there a small tooth. *WOODWARD.* *Fruit-stalks* naked. *Blossoms* blue, or white.

Hairy Sheep's Scabious. Sheep's-bit. Only in very dry parched situations. LINN.—Sandy and barren fallows and pastures. RAY.—Meadows and heaths. HUDS. A. June—July.

Var. 2. *dwarf.* Whole plant very hairy; when full grown but about an inch high.

Sea coast, Cornwall.

VERBAS'CUM. *Bloss.* wheel-shaped, nearly regular: *caps.* 2-celled; 2-valved; many-seeded.

Thap'sus. V. Leaves decurrent, cottony on both sides; stem unbranched; summit globular.

Fl. dan. 631—*E. bot.* 549—*Woodv.* 125—*Blackw.* 3—*Kniph.* 9.

From 4 to 6 feet high. *Flowers* in a long terminating spike. *Blossom* yellow; rarely white.

Great Mullein. Cows' Lungwort. Ladies' Forglove. Dry ditch banks, in chalky and gravelly soil. B. July.*

Var. 2. *Thapso-nigrum.* Leaves egg-oblong; lower ones on leaf-stalks, middle ones sitting, upper ones decurrent; stem branched; flowers several together, sitting. Mr. ROBSON.

I am indebted to Mr. Robson, of Darlington, for this curious hybrid plant, together with the following account of it:

This was the produce of *V. Thapsus* and *nigrum*. In the spring of 1789 I planted a sprout of *V. nigrum* near a plant of the *V. Thapsus*. Both species flowered well, and the latter was suf-

* Externally used it is emollient. Dr. Home advises a decoction of it, 2 ounces to a quart, in diarrhoeas of an old standing; he gave a quart every day. *Clin. Exp.* p. 439. It eases the pains of the intestines; it is used as an injection in tenesmus with advantage; and is often applied externally to the piles. *ib.*—It is said to intoxicate fish so that they may be taken with the hand.—In Norway it is given to cows that are consumptive.—The down serves for tinder.—Neither cows, goats, sheep, horses, or swine will eat it.

ferred to stand and shed its seed. In the spring of 1790 several plants appeared, different from either, but partaking of both species.

The specimen sent was taken from a plant which has come up and flowered for five years successively, but produced no perfect seed. Whole *plant* hairy; hairs branched. *Root* branched, perennial. *Stem* 5 or 6 feet high, branched from the bottom. *Branches* undivided, long, angular, lower part leafy. *Leaves* egg-oblong, wrinkled, scoloped; lower ones on leaf-stalks; middle one sitting; upper ones decurrent, more acute than the lower; gradually diminishing to floral-leaves, and at length to flower-scales. *Spikes* terminating the branches, 1 and a half to 2 feet long, composed of many clusters of sitting flowers, about 6 or 7 in each. *Calyx* segments spear-shaped. *Blossom* segments inversely heart-shaped, nearly equal, yellow. *Filaments* yellow, hairy; hairs purple, two of them hairy only on one side. *Anthers* orange. *Germen* woolly. It is difficult to say to which of its parents it is most nearly allied. In *V. Thapsus* the leaves are decurrent, in *nigrum* on leaf-stalks; in the hybrid the lower leaves have leaf-stalks, the upper ones being decurrent. *V. Thapsus* has three of its stamens hairy, and two smooth; *nigrum* has all its stamens hairy; the hybrid has all its stamens hairy, but two of them so only on one side. Mr. ROBSON.

Var. 3. Another hybrid variety which Mr. Turner would call *nigro-lychnitis*, he found near Yarmouth, and describes thus:

“*Leaves* woolly, and excepting those of the root, all sitting. *Stem* about 4 feet high, throwing out numerous flowering branches which are axillary. *Flowers* in bunches of about a dozen each, resembling entirely those of *V. nigrum*, and all the stamens purple and woolly. It evidently perfects no seeds.”

This variety has since been extirpated, but may probably appear again in the same place, or elsewhere.

V. *Leaves* wedge-oblong, (smooth on the upper surface; *Lychnitis*. stem angular, panicled, branched. E.)

E. bot. 58—Kniph. 6—Ger. 631. 1—Pet. 62. 4—Fuchs. 847—

J. B. iii. 873. 2—Matth. 1147—Lob. obs. 303. 2—Ger.

em. 775. 3—Ger. 632. 3—Fl. dan. 586.

Stem seldom more than three feet high. *Lower leaves* of a pleasant green, their upper surface shining. Mr. WOODWARD. (*Stem* angular, woolly. *Leaves* cottony underneath, smooth above, and veined like net-work. *Root-leaves* growing slender at the base. *Stem-leaves* egg-shaped, sitting, not decurrent. Fl. Brit. E.)—*Flowers* in terminating and lateral spikes: pale yellow, or dirty white.

PENTANDRIA. MONOGYNIA: *Verbascum*.

Hoary Mullein. Chalky and sandy meadows and pastures, and road sides, Kent. [Kinver, Staffordshire, near the Rock Houses. Dr. STOKES.] B. July—Aug.

(Var. 1. *Thapsoides*. Leaves decurrent; stem branched. E.)

Fuchs. 846—*Dod.* 143. 2—*Ger. em.* 773. 2—*J. B.* iii. 872. 4.

A hybrid plant, produced in the gardens of Upsal, in the year 1761, from the seeds of the *V. Lychnitis*, impregnated by the pollen of the *V. Thapsoides*, both which grew in the same bed. Seen long ago by Agerius, who sent it to J. Bauhine, from whom succeeding authors have copied it. Agrees with *V. Lychnitis* in its branching stem; its flowers, and also, though less so, in the purple hairs of the filaments; and with the *V. Thapsoides* in size, in its leaves, which run down the stem, though not all the way, and which are not so white; in its calyx, which, however, has a longer fruit-stalk, though not so long as in the *V. Lychnitis*. It is not a distinct species, but rather a variety of *V. Lychnitis*. LINN.

Bastard Mullein. *Verbascum Thapsoides*. Linn. With. ed.

4. Chalky and sandy meadows and pastures, in Kent. HUDSON. B. July—Aug.

(pulverulentum.

V. Leaves egg-oblong, a little serrated, powdered on both sides; stem cylindrical, paniced. *Fl. Brit.* E.)

E. bot. 487. 1—*Verbascum pulverulentum*.—*J. B.* iii. 873. 1.

Stem four to five feet high. Leaves, lower ones somewhat notched; upper ones sometimes embracing the stem, more and more pointed as they ascend. Blossom yellow. WOODWARD.—(Stem upright, paniced upwards, pyramidal, many-flowered, much branched. All the leaves sitting. More branched and the blossoms larger than in *V. Lychnites*. Anthers red. *Fl. Brit.* Whole plant covered with a meal-like down.

Powdery Mullein. *Norfolk Mullein.* *Verbascum Lychnitis*. var. 1. With ed. 4. E.) About Norwich. RAY. [and Mr. PITCHFORD.—Very common in Norfolk. Mr. WOODWARD.]—Bury, and Wollerton, Northamptonshire. RAY. B. July.

(Dr. Smith also describes a variety which he conceives to be the offspring of *V. nigrum*, though much resembling the *V. pulverulentum*, having leaves more finely scalloped; the root-leaves on leaf-stalks; stem and leaf-stalks purple.

At Hellesdon, near Norwich, frequent. Mr. WOODWARD informs me that this curious variety grows on gravelly soil at Ditchingham, near Bungay, and observes that the different species of *Verbascum* seem to have a peculiar propensity to mix and form hybrids. From Bot. Guide we learn that Mr. Wigg cultivated for many years in his garden *V. nigrum*, pul-

verulentum, and *Blattaria*, and the seminal varieties which rose in almost every possible state of intermediate gradation between them, were highly curious and beautiful. E.)

V. Leaves heart-oblong, on leaf-stalks.

nigrum.

E. bot. 59—*Fl. dan.* 1088—*Fuchs.* 849—*Dod.* 144. 1—*J. B.* in. 873. 3—*Trag.* 218—*Ger.* 631. 2—*Ger. em.* 775. 2—*H.* or. v. 9. row 2. 5.

Leaves notched, downy underneath. *Stem* angular. *Spike* loose, sometimes branched. LINN. *Leaves* heart-spear-shaped, not doubly scolloped; the lower on short broad leaf-stalks. *Flowers* about seven in a set. *Spike* long, but not very compact. The beauty of its golden yellow blossoms is much enriched by the tints of purplish brown at the mouth of the tube, and the yellowish scarlet colour of the anthers.

Black Mullein. Hedges and road sides. [Road sides, sandy soil, Suffolk. Mr. WOODWARD.—At Hampstead, betwixt Birmingham and Walsall.]—(Plentiful in Kent and Norfolk. E.)

P. July—Sept.

V. Root-leaves somewhat lyre-shaped; stem-leaves sitting; virga'tum. stem branching; fruit-stalks several together, sitting. St.

E. bot. 550—*Lob. ic.* 564—*J. B. iii.* 875. 1.

Root branched, slanting, biennial, whitish, bitter. *Stem* upright, from five to six feet high, branching from the bottom, round, marked with superficial angles from the edges of the leaves running down the stem, and of a wood-like hardness below. *Branches* undivided, long, rod-like, alternate, solitary, leafy below, beset with flowers to the length of two feet and upwards. *Root-leaves* a good deal resembling those of the *Common Primrose*, spear-shaped-oblong, wing-cleft-scolloped towards the base, unequally and doubly notched, wrinkled; above somewhat glossy, with scattered hairs; underneath venous and woolly. *Lower stem-leaves* oblong-spear-shaped, or egg-oblong-spear-shaped, notched, and some of the lowermost scolloped towards the base, narrowing down into very short leaf-stalks. *Upper stem* and *branch-leaves* egg-shaped, or oblong-egg-shaped, toothed, not serrated as in *V. Boerhaavii* and *Blattaria*; sitting, not embracing the stem as in *V. Blattaria*. *Flower-leaves* egg-shaped, gradually diminishing, the uppermost spear-shaped, and at length becoming a kind of flower-scale. *Flowers* nearly sitting, in small clusters from the sides of the stem and branches, at moderate intervals. *Blossoms* yellow, with a purplish

ring round the mouth; one inch and a quarter diameter; two or three in bloom at once. *Fruit-stalks* horizontal, very short, seldom more than half the length of the calyx.

Large-flowered Mullein. *Blattaria lutea major, sive Hispanica.* Park. 64. and par. 383—*Blattaria lutea fol. long. laciniato altera 4 cubitorum*, 3, 4, 5, et plura vascula conjuncta habens. C. B. pin. 240—*Blattaria magna flore.* C. B. pin. 241. J. B. iii. 875. R. hist. 1096. Tourn. 148.

First found by Mr. Waldron Hill, of Worcester, in a field on the South side of a lane leading from Gregory's Mill to the turnpike road, near that town. The side of the turnpike road, from Worcester to Ombersley, opposite to the lane leading to Beverey, cultivated for three years without any perceptible alteration. Dr. STOKES.—(Ten miles from Ludlow, on the Shrewsbury road. Dr. EVANS, in *Bot. Guide.* E.)

Blatta'ria.

V. Leaves embracing the stem, oblong, smooth; fruit-stalks solitary.

E. bot. 393—*Fuchs.* 183—*Trag.* 925—*J. B.* iii. 874. 1—*Ger. em.* 778. 7—*Park.* 64. 3—*Ger.* 633. 1—*Matth.* 1151—*Dod.* 145. 1—*Lob. obs.* 304. 2—*Ger. em.* 776. 1—*Park.* 61. 5—*Pet.* ii. 62. 5—*H. ox.* v. 9. row. 3. 5.

(*Leaves serrated.* *Fl. Brit.* E.)—*Stem* two to three feet high, slightly angular, smooth. *Leaves* somewhat wrinkled. *POLLICH.* *Leaves* glossy on the upper side; sometimes toothed, and sometimes notched; *lowermost* wing-cleft at the base. *Fruit-stalks* longer than the flower-leaves.

Yellow Moth Mullein. Gravelly soil. Lane between Mit-cham Common and Casalton. Horn's place, near Rochester. Between Deptford and Greenwich. RAY.—About Plymouth and Ashburton, Devonshire. HUDSON.—(Near the fourteenth mile stone from London to Dartford. BLACKSTONE.—Five miles from Ludlow, on the Shrewsbury road. Dr. EVANS, in *E. bot.* E.) A. June—July.

DATU'RA. Bloss. funnel-shaped, plaited: *cal.* tubular, angular, falling off with the blossom: *caps.* 4-valved.

Stramo'ni-um.

D. Seed-vessel thorny, upright, egg-shaped; leaves egg-shaped, smooth.

E. bot. 1288—*Stoerck.*—*Fl. dan.* 436—*Woodv.* 124—*Kniph.* 10—*Clus. exot.* 289—*Ger. em.* 348. 2—*Blackw.* 313—*Col. phytob.* 12.

A large wide spreading, strong smelling plant, about two feet high. *Leaves* deeply indented. *Blossom* white, sometimes with a tinge of purple. (*Seeds* kidney-shaped. E.)

Thorn-apple. Amongst rubbish and on dunghills. A native of America, but now naturalized in Europe. LINN.—(By the road side beyond Brooke, Norfolk, in the way to Bungay.—About London, not uncommon. *Fl. Brit. E.*)—Fritton Heath, Suffolk. Mr. WOODWARD.—(In meadows near Reading. Mr. FARDON, in *Bot. Guide*. On rubbish at Salthill, near Windsor. Mr. GOTOBED.—At Wisbech. Mr. SKRIMSHIRE.—Wallow Crag, Keswick. Mr. HUTTON.—Sunderland Ballast Hills. Mr. WINCH.—Not uncommon about Swansea. Mr. DILLWYN.—At Ride, Isle of Wight. Mr. S. WOODS.—About London common. Mr. DILLWYN. *ditto*. E.) A. July.*

HYOSCY'AMUS. *Bloss.* funnel-shaped, blunt, irregular: *stam.* leaning: *caps.* with a lid, 2-celled: *seeds* many, kidney-shaped.

H. Leaves embracing the stem, indented; flowers sitting. ni'ger.

* At night the leaves, particularly the upper ones, rise up and inclose the flowers. An ointment prepared from the leaves gives ease in external inflammations and Hemorrhoids. The Edinburgh College directs an extract to be prepared by evaporating the expressed juice of the leaves. This has been given with great advantage in convulsive affections and epilepsies.—Out of 14 epileptic patients, 8 were entirely cured by it, at Stockholm.—The dose from 2 to 16 grains a day. *Med. Comm.* i. 368. iii. 22. See also *Lond. Med. Journ.* ii. 295. The seeds or leaves given internally bring on delirium, tremours, swelling, itching, eruption, and inflammation on the skin: these effects were produced by a dose of a dram and a half, in a girl of 9 years old. See Dr. Fowler's account, *Med. Comm.* vol. 5 p. 164. Cows, goats, sheep, and horses refuse it.—(Dr. Swediaur states that an antidote to this poison has been found in the acetic or citric acid. This plant has lately acquired general attention by its alledged efficacy in alleviating and warding off fits of spasmodic Asthma. The Monthly Magazine appears to have been the principal vehicle of intelligence on this interesting subject, and in the vols. for 1809, 1810, and 1811, may be found many authentic statements, we shall here only extract the simple directions given in vol. 29. p. 409. "It is the root only, and lower part of the stem which seem to possess the anti-asthmatic virtue; these should be cut into small pieces, and put into a common tobacco pipe, and the smoke must be swallowed, together with the saliva produced by the smoke; after which the sufferer will, in a few minutes, be relieved from all the convulsive heaving, and probably drop into a comfortable sleep, from which he will awake refreshed; and in general perfectly recovered. He must avoid drinking with the pipe, but will find a dish of coffee afterwards highly refreshing." Cases and more full evidences, have recently been collected, and published in a separate volume by Phillips.—Thus far we believe to be important truth, but every popular remedy must be a panacea, and we are sorry to learn under the vain idea of curing consumption, stramonium has been incautiously used as tea by ignorant persons, and in some instances has proved speedily fatal. E.)

E. bot. 591—*Kniph.* 1—*Ludw.* 85—*Clus.* ii. 83—*Dod.* 450.
 1—*Lob. obs.* 139. 1—*Ger.* 283. 1—*Ger. em.* 353. 1—*Woodv.*
 52—*Park.* 362. 1—*Blackw.* 550—*Riv. mon.* 102—*Stoerck.*
 —*H. ox.* v. 11. row 2. 1—*Matth.* 1064—*Fuchs.* 833—*J. B.*
 iii. 627. 1—*Trag.* 133.

Whole *plant* with a strong and peculiar odour; woolly and clammy. *Calyx* woolly at the base, a little distended on the under side. *Blossom tube* white, with the middle deep purple; *border* pale yellowish brown, beautifully veined with purple. *Anthers* and style of a fine deep purple.

Common Henbane. Villages, road sides, and amongst rubbish, not uncommon, (particularly in the midland and southern counties. E.)

B. LINN.—A. HUDS.—June.*

al'bus.

H. Leaves on leaf-stalks, bluntly indented; flowers sitting.

This plant, new to the English Botanist, has been found at different times by Mr. ROBSON of Darlington, on Ballast Hills and other places near Sunderland.

A'TROPA. *Bloss.* bell-shaped: *stam.* distant: *berry* globular, 2-celled.

Belladon'na. A. Stem herbaceous; leaves egg-shaped, entire.

E. bot. 592—*Curt.* 347—*Ludw.* 128—*Jacq. austr.* 309—*Fl. dan.* 758—*Kniph.* 9—*Sheldr.* 101—*Mill.* 62—*Woodv.* 1—*Clus.* ii. 86. 1—*Dod.* 456. 1—*Lob. obs.* 134. 2—*Ger. em.* 340—*Park.* 346. 6—*Ger.* 269—*H. ox.* xiii. 3. 4—*Blackw.* 564—*Matth.* 1073—*J. B.* iii. 611. 1—*Fuchs.* 689—*J. B. ib.* 2—*ib.* 3—*Trag.* 301.

* The seeds, the leaves, and the roots, taken internally, are reputed poisonous; and well attested instances of their fatal effects are recorded. Madness, convulsions, and death, are the general consequence. But Dr. Smith says he has often eaten the seeds with impunity. It is said that the leaves scattered about a house will drive away mice. The Edinburgh College order the expressed juice of the plant to be evaporated to an extract; and in this state it may be advantageously joined with opium, where the effects of that medicine are desirable, and costiveness is to be avoided—There is no doubt of its being an useful medicine under proper management. The dose is from half a scruple to half a dram. Goats are not fond of it. Horses, cows, sheep, and swine refuse it. LINN.—Sheep sometimes eat it when young. Mr. BALLARD.—*Chrysomela Hyoscyami*, and *Cymex Hyoscyami*, are found upon it.—(The fumes from the seeds of Henbane, heated in the bowl of a tobacco pipe, placed in a fire, have been recommended in severe tooth-ach. The fumes may be conveyed from the pipe to the affected tooth by a tube of tin. E.)

(*Stem* annual, rather pubescent. *Root* fleshy, thick, creeping. *Calyx* somewhat pubescent, viscons. *Anthers* large, whitish. *Berry* with many seeds. *Fl. Brit. E.*)—Two or three feet high. *Stem* zig-zag. *Blossom* dark purple. *Berry* green, changing to red, and when ripe, black.

Deadly, or sleepy Nightshade. Dwayberries. Deadly Dwaile. Hedges, amongst limestone and rubbish. [In St. Faith's Newton, near Norwich, and in Herts, frequent. Mr. WOODWARD. —Very luxuriant amongst the mines of Furness Abbey, whence the valley is called the Vale of Night-shade. See West's Antiquities of Furness. Mr. ATKINSON.—Yard of Lantony Abbey, near Gloucester. Mr. BALLARD.—Hardwick Park, Derbyshire. Dr. STOKES.—Banks of Dudley Castle.] P. June—Aug.*

SOLA'NUM. *Bloss.* wheel-shaped: *anthers* a little united, 2 holes at the top of each: *berry* 2-celled.

S. Stem without prickles, rather shrub-like, zig-zag; upper leaves halberd-shaped; flowers in tuft-like bunches.

E. bot. 565—*Ludw.* 58—*Curt. i.* 1—*Fl. dan.* 607—*Blackw.* 34—*Kniph.* 1—*Woodv.* 33—*Dod.* 402. 2—*Lob. obs.* 136. 4—*Ger. em.* 350—*Park.* 350—*Ger.* 279. 1—*Trag.* 816—*Matth.* 1281—*J. B.* ii. 109. 2.

Stems twining. *Leaves* egg-spear-shaped; the upper sometimes, but not always halberd-shaped. *Blossom* purple, with two green spots at the base of each segment. *Anthers* on the first opening of the blossom readily separable, but afterwards growing dryer, they sooner tear than be disjoined. *Berries* scarlet. *Blossom* sometimes flesh-coloured; rarely white.

* The whole plant is poisonous; and children, allured by the beautiful appearance of the berries, have too often experienced their fatal effects. Tumours of the breasts, even of the cancerous kind, are said to have been resolved by a topical application of the fresh leaves. Dr. Graham in the *Med. Communicat.* vol. i. p. 419, says, he found great benefit from a poultice made of the roots, boiled in milk, and applied to hard ill-conditioned tumours and ulcers; and relates a deplorable case, in which this poultice effected a perfect cure. There is no doubt but their external application may be productive of good effects in several cases, but the following instance shews us that their application is dangerous when the skin is broken: A lady, who had a small ulcer a little below one of her eyes, which was supposed to be of a cancerous nature, put a small bit of the green leaf upon it. In the morning the uvea of that eye was so affected that the pupil would not contract, even in the brightest light; whilst the other eye retained its usual powers. The leaf being removed, the eye was gradually restored to its former state. This could not be an accidental effect, for it was repeated three separate times, and the same circumstances attended each application. *Ray Hist.* 680. The juice of the ripe berries stains paper of a beautiful and durable purple.

Bitter-sweet. Woody Nightshade. Moist brakes, hedges, and sides of ditches. P. June—July.*

Var. 2. Leaves hairy. HUDS.—Sea coast. RAY and HUDS.

nigrum.

S. Stem without prickles, herbaceous; leaves egg-shaped, toothed, angular; bunches nodding, pointing 2 ways.

E. bot. 566—*Ludw.* 172—*Curt.—Fl. dan.* 460—*Woodv.* 226—*Sheldr.* 106—*Blackw.* 107—*Dod.* 454. 1—*Lob. obs.* 133. 2—*Ger. em.* 339. 1—*Park.* 346. 1—*H. ox. & xiii.* 1. row. 1. 1—*Matth.* 1069—*Ger.* 268. 1—*Fuchs.* 686—*J. B.* iii. 6. 608—*Trag.* 303.

Stem branched, angular. *Fruit-stalk* lateral, midway between the leaves. *Blossom* white. *Berries* black when ripe, (sometimes yellow. HUDSON. E.)—This plant is subject to such varieties that I once suspected Linnæus had confounded different species under the name of *S. nigrum*; but the judicious remarks of my estimable friend Dr. Corrêa de Serra, at length convinced me to the contrary. With us it is truly an herbaceous annual, but in Portugal I have seen the stem from half to one inch diameter, cutting like hard wood, and its duration certainly biennial, probably perennial, the stem and branches becoming quite black with age. The figure of Mr. Curtis seems to have been taken from a plant in an intermediate state, between the strictly herbaceous northern and the woody southern varieties.

Common Nightshade. Garden Nightshade. Amongst rubbish. On dunghills, and in Kitchen Gardens. A. June—Oct.†

* Boerhaave reports it to be a medicine far superior to China and Sarsaparilla as a sweetner and restorative. Linnæus says an infusion of the young twigs is an admirable medicine in acute rheumatism, inflammations, fevers, and suppression of the lochia. Dr. Hill says he has found it very efficacious in the asthma. Doctor Hallenberg advises it in ischiatic and rheumatic pains, jaundice, scurvy, and lues venerea. He directs a pint of boiling water to be poured upon two drams of the stalks sliced and dried, after standing half an hour, it must be boiled 15 minutes. The dose is two tea cups full or more, morning and evening. The stalks may be gathered early in the spring, or at the end of autumn. *Med. Comm.* vol. 3. p. 15.—The root has the smell of the potatoe. Dr. BEDDOES.—Sheep and goats eat it. Horses, cows and swine refuse it.

† From 1 to 3 grains of the leaves infused in boiling water, and taken at bed-time, occasions a copious perspiration; increases the secretion by the kidneys, and generally purges more or less the following day. These properties, judiciously applied, render it capable of being essentially serviceable in several diseases, as may be seen in Mr. Gattaker's Treatise on the Solanum. But its effects on the nervous system are so uncertain, and sometimes so considerable, that it must ever be administered with the greatest caution. The leaves externally applied abate inflammation, and assuage pain. The flowers smell like musk. Horses, cows, goats, sheep, and swine refuse it.

CHIRO'NIA. *Bloss.* funnel-shaped: *pistil* leaning: *stam.* fixed to the top of the tube of the blossom: *anthers* becoming spiral: *seed-vess.* 2-celled.

C. Herbaceous; leaves spear-shaped; calyx shorter than *Centau'rium*. the tube of the blossom.

Dicks. h. s.—*Curt.* 247—*E. bot.* 417—*Woodv.* 157—*Fl. dan.* 617—*Kniph.* 8—*Walc.*—*Skeldr.* 82—*Fuchs.* 387—*J. B.* iii. 353. 2—*Matth.* 655—*Dod.* 336—*Lob. obs.* 218—*Ger. em.* 547. 1—*Park.* 272. 1—*Blackw.* 452—*Trag.* 140—*Ger.* 437—*H. ox.* v. 26. row 1. 5.

Blossom sometimes only 4-cleft, HUDSON, and sometimes white. RAY. *Plant* ten or twelve inches high; upright, dividing at the top into three flowering branches; and sometimes one or two flowering branches spring from the bosom of the leaves on the side of the stem. *Flowers* forming a corymbus. *Calyx* adhering to the tube of the blossom, and that again to the germen. *Blossom* funnel-shaped, tube long, yellowish: border pinky red, segments lapping over each other. *Anthers* twisted in a spiral after discharging the pollen. *Style* cylindrical, cloven at the top, and divisable without much force all the way down. *Summits* 2, shaped like a horse-shoe, yellowish green.

Common Centaury. *Gentiana Centaurium.* Linn. Barren pastures. A. June—Aug.*

Var. 2. Much branched.

Vaill. 6. 1.

Var. 3. *Dwarf*; hardly one inch high. This grows on barren limestone rocks, and has much the appearance of the *Ch. pulchella*, but, however small, it still preserves its dichotomous habit, and its leaves have not the woody ribs or nerves so evident in the *Ch. pulchella*. The calyx best distinguishes the *Ch. pulchella* from the starved specimens of *Ch. Centaurium*.

(The Marquis of Blandford is said to have found a variety of this plant with perfectly white blossoms; and two very

* Extremely bitter. It is the basis of the famous Portland Powder, which prevents fits of the gout, when taken in large quantities, and a long time together; but brings on hardness of the liver, palsy, and apoplexy. A tincture of the leaves, and the upper part of the root, is a good medicine in weak stomachs and cachectic habits. A decoction of the whole plant destroys lice, and cures the itch. Cows are not fond of it, LINN. and in sheep pastures it is frequently left untouched. Dr. STOKES.

strongly marked varieties have been discovered on the sea sands near Liverpool, by Dr. Bostock and Mr. Shepherd; the one agrees with the common plant in size, general appearance, and the form of the blossoms; but differs in having narrow, battle-dore-strap-shaped leaves; the segments of the calyx elongated, narrowed, exceeding the tube of the blossom. The other is a much lower plant, with very broad leaves, almost circular; blossoms small, crowded together; the segments of the cup likewise longer than the tube, but not so narrow as in the preceding variety. *Fl. Brit. E.*)

pulchella. C. From 1 to 4 inches high; stem with 3 or 4 pairs of leaves, not branched; flowers 1, sometimes 2, terminating; leaves egg-spear-shaped, 3 or 5-fibred; floral-leaves strap-shaped.

E. bot. 458—*Swartz. nov. act. Stockh.* 1783. p. 83. t. 3. f. 8. 9.

The latter figure is cited from Gmelin in his edition of the *Syst. Naturæ*, and on the authority of Mr. Afzelius.

Specimens sent by Mr. GIDDY in 1796. The dwarf plants first found by Mr. WATT having no stem, and several flowers at the crown of the root are exactly the same with the figure in *E. bot.* 458.—Dr. Smith cites *Vaill. par. vi.* 1. but that figure is much larger than either the Cornish or the Gorlestone plants.

Sir Thomas Frankland observes the habit of the *Ch. pulchella* to be very different from that of the *Ch. Centaurium*: the leaves also seem different at their insertion, those of *Ch. Centaurium* uniting; in *Ch. pulchella* they appear distinct.

CALYX segments nearly as long as the tube of the blossom, but not adhering to it, as in the preceding species.

BLOSS. funnel-shaped; border 5-cleft, segments spear-shaped; tube not adhering to the germen.

STAM. fixed near the top of the tube. *Anthers* twisted spirally when dry, but when damped resuming their original shape.

PIST. *Germen* oblong, nearly filling the tube of the blossom. *Style* half the length of the filaments. *Summits* 2, horse-shoe-shaped, velvety.

CAPS. partitioned into 2 cells.

SEEDS numerous.

Gentiana pulchella. Gmel, *Syst. Nat.* *G. Centaurium* β.
LINN. Aug.—Sept.

[Downs at Port Owen, near the sea, Cornwall. Mr. WATT. Gorlestone, Suffolk, near the sea. Mr. TURNER and Mr. STONE.]
 —(Braunton Burroughs, Devonshire. Rev. Dr. GOODENOUGH.
 —On Cromlyn Burrows, near Swansea, abundant. Mr. DILL-
 WYN.—Near Sandwich, and plentifully above Sandgate. Mr. J.
 WOODS, jun.—Very common on the South Downs, Sussex. Mr.
 BORRER. *Bot. Guide*.—Bootle, near Liverpool. Dr. BOSTOCK;
 and also on Crosby Rabbit Warren: with Mr. SHEPHERD.—Sea
 coast, near Prestatyn, Flintshire. Mr. GRIFFITH. E.)

RHAMNUS. *Calyx* tubular: scales protecting the
 stamens: *bloss.* none: fruit a *drupa*.

R. Thorns terminating; flowers 4-cleft, male and female catharticus.
 on different plants; leaves egg-shaped; stem upright.

Fl. Ross. i. 61—*Fl. dan.* 850—*E. bot.* 1629—*Blackw.* 135—
Matth. 158—*Woodv.* 114—*Dod.* 756—*Ger. em.* 1337. 2—*Park.*
 243. 1 at the bottom.—*Clus.* i. 111—*Lob. obs.* 599. 1—*Ger.*
em. 1337. 1—*Park.* 243. 1.

(Not always dioicous. *Fl. Brit. E.*)—*Summit* cloven into
 4. *Berry* 4-seeded. LINN. *Stamens* 4. *Blossoms* pale green.
Berries black.

Buckthorn. (Clapham; and Ravensden, in woods and
 hedges. ABBOT.—Hedges near Reading. Mr. FARDON, in *Bot.*
Guide.—Near Eton. Mr. GOTOBED.—Garregwen rocks, by
 Garn, Denbighshire. Mr. GRIFFITH.—Plentiful at Brixton,
 and in other parts of Devonshire. POLWHELE.—Ryhope Dean,
 Durham, edges of rocks. Mr. WEIGHELL.—Woods at Penrice,
 and on the Flat Holmes, Glamorganshire. Dr. TURTON.—Wool-
 pit Wood, near Bury. Sir T. G. CULLUM.—Common near
 Copgrove, and other places in Yorkshire. Rev. J. DALTON.
ditto. E.)—[Woods and hedges near Norwich. Mr. CROWE.—
 Side of a brook near Hanley-Castle, Worcestershire. Mr.
 BALLARD.—In Shropshire, common.] S. April—May.*

* A purgative syrup prepared from the berries is kept in the shops.
 About an ounce of it is a moderate dose; but it generally occasions so
 much sickness and griping that it is falling into disuse. The flesh of birds
 that feed upon the berries is said to be purgative.—The juice of the un-
 ripe berries is of the colour of saffron, and is used for staining maps or paper.
 These are sold under the name of French Berries, (of which the better kind
 is produced by the *R. infectorius*, and brought from the Levant. E.)—The
 juice of the ripe berries mixed with alum, is the sap green of the painters;
 but if they are gathered late in the autumn the juice is purple. The bark
 affords a beautiful yellow dye. Goats, sheep, and horses eat it. Cows refuse
 it. (Though commonly but a moderate sized shrub, Buckthorn has been
 known to attain the height of nearly 20 feet, and the diameter of one foot.
Phil. Trans. v. 46. E.)

Fran'gula. R. Without thorns; flowers hermaphrodite, with 1 pistil; leaves very entire.

Kniph. 5.—*E. bot.* 250—*Ludw.* 82—*Blackw.* 152—*Fl. dan.* 278—*Matth.* 1271—*Ger.* 1286—*Lob. obs.* 594. 2—*Park.* 240—*Dod.* 784. 1—*Ger. em.* 1470—*J. B. i.* 560. 2—*Trag.* 981—*Lob. obs.* 594. 1.

Blossom with five clefts. *Summit* notched. *Berry* with four seeds. The inner bark is yellow; the outer sea green, and the middle bark red as blood. LINN. *Berry* with three cells. SCOP. With two seeds. *E. bot.*

Berry-bearing Alder. *Alder Buckthorn.* Woods and wet hedges. [Woods, Suffolk. Mr. WOODWARD.—Wood at Smethwick, near Birmingham. ST.—Hedges at Pendeford, near Wolverhampton. Mr. PITT.—Landsmouth Wood, four miles North of Knayton, Yorkshire. Mr. FLINTOFF.—Cotcliffe Wood, near Burrowby. Mr. ROBSON.] S. April—May.*

EUO'NYMUS. *Bloss.* 5 petals: *caps* coloured: 5-sided, 5-celled, 5-valved: seed-coat hollow: *seed* veiled.

europæus. E. Flowers mostly 4-cleft; leaves sitting.

E. bot. 362—*Fl. dan.* 1089—*Kniph.* 5—*Trag.* 983—*Ger.* 1284. 1—*Dod.* 783—*Lob. obs.* 591. 2—*Ger. em.* 1468. 1—*Park.* 241. 1—*J. B.* 1. 6. 201.

(Branches smooth, green, cylindrical; the younger 4-cornered. *Leaves* having leaf-stalks, (not sitting) serrated, smooth. *Fl. Brit. E.*) In Cornwall it has four stamens. Mr. STACKHOUSE. *Leaves* egg-spear-shaped, opposite, on leaf-stalks. *Fruit-stalks* from the bosom of the leaves, and supporting one or two pair of flowers. *Petals* greenish white, sharp-pointed. *Filaments* fixed in holes in the receptacle. *Fruit* angular, purplish; sometimes white.

Spindle-tree. *Prickwood.* *Gatteridge-tree.* Woods and hedges. [This singular and beautiful shrub is very common in Devonshire.] S. May—June.†

* From a quarter to half an ounce of the inner bark, boiled in small beer, is a sharp purge. In dropsies, or constipations of the bowels of cattle, it is a very certain purgative.—The berries gathered before they are ripe dye wool green. The bark dyes yellow, and with preparations of iron, black. Charcoal prepared from the wood is preferred by the makers of gunpowder.—The flowers are particularly grateful to bees. Goats devour the leaves voraciously, and sheep will eat them.—The *Papilio Rhœni*, and *Argus* live upon both the species.

† The berries vomit and purge violently. They are fatal to sheep. Powdered, and sprinkled upon the hair, they destroy lice. If the wood is cut when the plant be in blossom, it is tough, and not easily broken; and in that state

VIOLA. *Calyx* 5-leaved, adhering to the blossom above the base: *bloss.* 5 petals, irregular with a spur behind: *anthers* cohering: *caps.* 1-celled, 3-valved.

(1) *Stemless.*

V. Leaves heart-shaped, rough with strong hair. LINN. *hir'ta*.
Leaf-stalks rough with hair; floral-leaves below the middle of the fruit-stalk. CURT.

Walc.—*Curt.*—*E. bot.* 894—*Fl. dan.* 618—*H. ox.* v. 35. row 1. f. 4—*Pet.* 37. 7—*Brunsf.* 137. 3—*Trag.* 558.

Root throwing out young shoots, but which do not creep and strike root as in the *V. odorata*. After the first flowers are withered, the plant continues, for a month or more, to throw out others entirely destitute of petals, or with only the rudiments of them, which never appear beyond the calyx, but with all the other parts of fructification perfect, and producing as the first crop perfect seed. CURTIS. *Blossom* pale blue; scentless.

Hairy Violet. Shady places and hedges in a calcareous soil. (About Charlton, Kent. *E. bot.*—Barton Hill, Bedfordshire. ABBOT.—Very common about Garn, near Denbigh. Mr. GRIF-FITH.—Peninsula of Gower, Glamorganshire, not unfrequent. Mr. DILLWYN.—Banks of the Tyne at Wylam. Mr. WYNCH, in *Bot. Guide.* *E.*) P. March—April.

V. Leaves heart-shaped; suckers creeping. LINN. *odora'ta*.
leaves above the middle of the fruit-stalk. CURT.*

E. bot. 619—*Curt.*—*Ludw.* 175—*Walc.*—*Woodv.* 81—*Kniph.* 3—*Fl. dan.* 309—*Renealm.* 141. 1—*Blackw.* 55—*Sheldr.* 17—*Dod.* 156. 1—*Ger. em.* 850. 2—*Pet.* 37. 3—*Ger.* 699. 1 and 2—*Lob. ic.* i. 608. 2—*Ger. em.* 850. 1—*Pet.* 37. 1—*Matth.* 1180—*Lonic.* i. 180. 1—*Trag.* 558. 1 and 2—*Fuchs.* 311—*J. B.* iii. 542.

is used by watch-makers for cleaning watches, and to make skewers and tooth-picks. Goats and sheep eat it. Horses refuse it. Cows are so fond of the shoots in the spring as constantly to break down the banks of the fields wherever a plant of it stands. Mr. WOODWARD.

* This observation should be made when the flowers are fully expanded, as the part of the fruit-stalk above the floral-leaves grows considerably longer before the blossoms are faded, CURTIS; for which reason, depending upon it as a mark of specific distinction may mislead. Mr. WOODWARD.

Leaf-stalks nearly smooth. *Fruit-stalks* channelled on the upper side above the floral-leaves. *Flowers* both with and without petals, all producing perfect seed. (The later flowers without petals. E.) CURTIS. Blossom rich blue-purple, smelling very sweet. WOODWARD.

Sweet Violet. It is liable to a change in the colour of the blossom, from the blue-purple to red-purple, pale flesh colour, and even white : (*V. odorata* β. Fl. Brit. E.) In the white ones the lateral petals are sometimes without the hairs which grow on the inside the claws in the purple kind, but the fragrance is the same. Warm hedges and ditch banks, and in moist warm lanes; particularly in clay or marle. P. March—April.*

palus'tris. V. Leaves kidney-shaped.

E. bot. 444—*Curt.* 217—*Abbot. Fl. Bed. p.* 190—*Fl. dan.* 73—*H. ox. v.* 35—row 2. f. 1—*Pet.* 37. 5—*Allion.* 2. 2.

Calyx skinny, and white at the edge. *Petals*, the lower of a uniform pale purple colour; the lateral ones with one strong, and one faint purple line, and a cluster of short stiff bristles near the base; the upper with about eleven purple branched streaks.

Marsh Violet. Moist meadows, peaty and mossy bogs. In the North, frequent. [Near Wittonle-Wear. Mr. BAILEY.—Almond Park, Salop. Mr. ATKIN.—Needwood Forest, Staffordshire.—Bogs on Birmingham Heath.] P. April—May.

(2) *With a stem. Stipulæ entire.*

canina. V. Stem ascending as it attains its full growth; leaves oblong-heart-shaped.

E. bot. 610—*Curt.* 108—*Walc.-Barr.* 695—*Lob. ic. i.* 609. 1—*Pet.* 37. 6—*Trag.* 558. 3—*Dod.* 156. 3—*Lob. ic. i.* 609. 2—*Ger. em.* 851. 6—*H. ox. v.* 7. 2—*Pet.* 37. 4—*Gars.* 622—*Park. par.* 285. 1—*J. B. iii.* 544. 1.

Calyx segments pointed. CURTIS. At the first opening of the flower it has no stem, but one afterwards grows up, and fruit-stalks proceed from it. *Leaves* sometimes rather hairy.

* The flowers and seeds are said to be mild laxatives. The powdered root, in doses from 40 to 80 grains, vomits and purges. The petals give the colour to the syrup of Violets, for which purpose they are cultivated in large quantity at Stratford upon Avon. This syrup is very useful in many chemical enquiries, to detect an acid or an alkali, the former changing the blue colour to a red, and the latter to a green. Slips of white paper, stained with the juice of the petals, and kept from the air and light, answer the same purpose.

Stipulæ fringed with hairs. Blossom pale blue, streaked, scentless, sometimes all white, sometimes the spur only white.

Dog's Violet. Shady places, heaths, hedge banks.

P. April—June.

Var. 2, *Dwarf.* Smaller in all respects. Spur of the blossom yellowish. DILL, in *R. Syn.*

Ray 24. 1, at p. 478.

Stem very short. Leaves rougher and much smaller than the common kind, the largest not exceeding half an inch long, and one-third broad. Leaf-scales not so much fringed. Flower seldom more than one. I have carefully traced it through all its stages, up to the largest plants of *V. canina*. WOODWARD.

Pastures about Mitcham. *R. Syn.* [Heaths frequent. Mr. WOODWARD.] May.

Var. 3. Leaves spear-shaped. Flowers pale.

E. bot. 445.

Cream-coloured Violet. *V. lactea*. Fl. Brit. and E. bot. [Found by Mr. STACKHOUSE at Pendarvis in Cornwall.]—(On the Wolds at Tunbridge. Mr. T. F. FORSTER, jun. Fl. Brit. E.)

(3) *With a stem. Stipulæ wing-cleft. Summit urn-shaped.*

V. Stem branched; leaves egg-shaped, toothed; calyx tri'color. smooth, but half the size of the blossom.

This plant is liable to almost endless varieties, of which the following are the most remarkable:

Var. 1. Blossoms white, or yellow-white; small, with a few purple streaks.

Matth. 1183—*Ger.* 704. 4, and 703. 1—*Fuchs.* 803—*J. B.* iii. 546. 2—*Trag.* 564—*Lob. ic.* i. 611. 2—*Ger. em.* 854. 4—*H. or.* v. 7. 10—*Pet.* 37. 9.

Corn fields. [Gravel-pits, sides of paths, gardens and cultivated ground. Dr. STOKES.] A. May—Sept.

Var. 2. Blossoms blue, or purplish, with or without yellow or white.

Kniph. 7—*Riv. pent.* 122. *V. bicolor*—*Pet.* 37. 8—*Barr.* 757. 1 and 3.

Road sides, in poor sandy and gravelly soil, common.

Var. 3. Blossoms of more than two colours, Dr. STOKES.

Curt.-E. bot. 1287—*Woodv.* 252—*Fl. dan.* 623—*Pet.* 37. 8, the 2 separate flowers.

Stem weak. *Stipulæ* terminating at the end in a leaf-stalk. *Fruit-stalks* compressed. *Floral-leaves* two on each fruit-stalk, halberd-shaped, each of the lobes with two teeth. *Summit* globular, hollow and open. In no plant may the process of impregnation be so distinctly seen. LINN. *Summit* fringed on the lower part, and the hairs of the fringe nearly in contact with the anthers.

These varieties are improved and enlarged by garden culture, and then obtain the names of *Pansies*. *Heart's-ease*. *Three faces-under-a-hood*. *Love-in-idleness*. Corn fields and ditch banks. [Very fine in the lanes about Bishton, Staffordshire.]

A. May—Sept.*

lutea.

V. Stem unbranched, upright, 5-cornered; leaves fringed with hairs, lower ones heart-shaped, upper ones spear-shaped.

E. bot. 721—*Pet.* 37. 10—*II. ox. v.* 7. 11.

From 2 to 8 inches high. *Root* creeping. *Lower leaves* heart-shaped, *upper leaves* spear-shaped. *Stipulæ* strap-shaped, entire, or rather divided down to the base, but in the *V. tricolor* they are hand-shaped. *Fruit-stalks* very long, axillary, upright, one-flowered. *Blossom* pale but bright yellow. In the *V. tricolor* the leaves are hairy at the edges as well as elsewhere, but not fringed with strong hairs standing out like an eye-lash, as in the *V. lutea*. The stem of the former is almost always branched, but I have never seen the latter branched, not even in the strongest and most luxuriant specimens.

Var. 2. Two lower petals tipped with purple. Mr. GOUGH.

Var. 3. Upper petals blue.

Yellow Violet, or *Mountain Pansies*. Mountainous pastures, in the North, and in Wales in a rotten peaty soil. RAY.—About Attamine Cliffs near Settle, Yorkshire. CURTIS.—[Hills above Dovedale, Derbyshire, and in the North. Mr. WOODWARD.—Chatsworth Park, Derbyshire. Mr. WHATELEY.—Pastures about Longdale near Oton plentiful. Mr. GOUGH.—In the

* Dr. STRACK says that it infallibly cures the scabby complaints in young children, called *Crusta lactea*. He boils a handful of the fresh, or half a dram of the dried leaves, in half a pint of milk, and gives this milk morning and evening, for some weeks. *Med. Journ.* ii. p. 188.

road between Settle and Malham Tarn, Yorkshire. Mr. CALEY.
—On Ben Lawers and Craig Calleach. Mr. BROWN.]

P. May—Sept.*

IMPA'TIENS. *Calyx* 2-leaved: *bloss.* 5-petals, irregular: *nectary* hood-like: *stam.* cohering: *caps.* superior, 1-celled, opening with a jerk into 5 spiral valves.

I. Fruit-stalks many-flowered, solitary; leaves egg-shaped; Noli-tangere. stem swoln at the joints.

E. bot. 937—*Fl. dan.* 582—*Riv. tetr.* 244. *Impatiens.*—*Dod.* 659. 2—*Ger. em.* 446. (*erroneously printed* 450.) 4—*Park.* 296. 5—*Trag.* 295—*Lonic. i.* 99. 4—*Col. ecphr. i.* 150. 1—*Barr.* 1197—*Gars.* 414—*Ger.* 361. 3—*Lob. adv.* 135, *ic. i.* 318. 1—*J. B. ii.* 908.

When the *seeds* are ripe, upon touching the *capsule*, they are thrown out with considerable force. In the day time the *leaves* are expanded; but at night they hang pendent. *LINN.* *Blossoms* yellow; the lateral petals spotted with red; by cultivation they are changed to pale yellow or purplish.

Yellow Balsam. Quick-in-hand. Impatient. Touch-me-not. Moist shady places and banks of rivulets. Banks of Winandermere near Ambleside, near Rydall Hall and other places in Westmoreland.—By the side of Coniston Lake, Lancashire. Mr. WOODWARD.—Near the foot-path going from the Inn at Ambleside up the brook, towards the cascade. Mrs. WATT.]—(Near Lyme Hall, Cheshire. Mr. G. HOLME, in *Bot. Guide.*—Banks of the river Camlet, at Murrington, in the parish of Chirbury, about five miles from Montgomery. BINGLEY.—Sides of the river Avon near Salisbury. Dr. MATON.—At the base of the old walls of Fountain's Abbey. TEESDALE. E.)
A. July—Aug.†

RIBES. *Petals* 5, they and the stamens fixed to the calyx: *style* cloven: *berry* beneath, 1-celled, many-seeded.

* This plant has been usually considered as the *Viola grandiflora* of Linnæus, but Dr. Stokes in the second edition of the *Bot. Arr.* shewed with how little propriety; and Mr. Afzelius has since informed me that our plant was entirely unknown to Linnæus, whose *V. grandiflora* bears a much larger flower, and differs both in the spur and in the stipule.

† The whole plant is considerably acrid. Goats eat it. Horses, cows, and sheep refuse it. The *Sphinx Elpenor* lives upon it.

(1) *Without prickles*: CURRANTS.

ru'brum.

R. Bunches smooth, pendant; flowers flattish.

Woodv. 74—Fl. dan. 967—E. bot. 1289—Ludw. 92—Sheldr. 91.
 1, 2, 3, and 5—Walc.—Blackw. 285. 1. 24—Kniph. 2—Trag.
 995—Matth. 168—Clus. i. 120. 1—Dod. 749. 2—Lob. obs. 615.
 2—Ger. em. 1593. 1—J. B. ii. 97.

Leaves segments rounded. Calyx spreading. Floral-leaves shorter than the flower. Blossom greenish white. Berries red.

Red Currants. Woods in the Northern counties. [Both this and *R. nigrum* are found undoubtedly wild upon the banks of rivers; the former by the Tees, and the latter by the Skern, in many places. Mr. ROBSON.] S. May.*

Var. 2. Sweet Currants. *Ribes vulgaris fructu dulci*. RAY Syn. 456.

Woods in Yorkshire and Leicestershire.

Var. 3. Small Currants. *Ribes fructa parvo*. RAY Syn. 456. Wimbledon Park, Surrey; and many places in Lancashire.

alpi'num.

R. Bunches upright; floral-leaves longer than the flowers.

E. bot. 704—Fl. dan. 968—Kniph. 3—Gunn. ii. 2. 1 and 2—Jacq. austr. 47—J. B. ii. 98.

Leaves segments spear-shaped, pointed. Calyx tubular, bluntly 5-sided. Stamens shorter than the petals. Pistil as tall as the cup.

Sweet Mountain Currants. (Hedges between Bangor Ferry and Bangor. Rev. H. DAVIES, in Bot. Guide.—Stayley Wood, in a place called Stocks, Cheshire. Mr. BRADBURY.—Woods and hedges in Yorkshire, about Fountain's Abbey, &c. E.)—[About Bradford, Mr. WOODWARD.—In the wood on the S. W. side of the pool at Edgbaston, plentifully.] S. May.†

* (Generally cultivated, with berries red, pale pink, or white, in the gardens of the North of Europe; not so successfully in the South. E.) The fruit is universally acceptable, either as nature presents it, or made into jelly. The juice is a pleasant acid in punch. If equal weights of picked currants and pure sugar be put over the fire, the liquor that separates spontaneously is a most agreeable jelly. Cows, goats, and sheep eat the leaves. Horses are not fond of them. LINN. This plant is very apt to be infested by the *Aphis Ribes*, and then the green leaves become red, pitted, and puckered.

† The fruit has a flat sweetish taste, and is only agreeable to children. The wood being hard and tough makes good teeth for rakes. Cows, goats, sheep, and horses eat the leaves.—“It is well worth observing how truly the insertion of the stamina into the calyx, as in the class *Icosandria*, indicates a wholesome fruit. The fruits of the *Pentandria Monogynia* are generally dangerous, many of them peculiarly fatal. *Ribes* is an exception, indicated by the insertion of its stamina, in which, though not in their number, it accords with

Var. 2. Male and female flowers on different plants.

Jacq. austr. 37. left hand fig. the male plant, and the single floret at the bottom. This, hitherto unnoticed as an English plant, was communicated to me by JOHN SNEYD, Esq. who found it in a hedge not far from Ilam in the North of Staffordshire, on lime-stone land. The female flowers produce 5 imperfect stamens, and form a shorter and more thinly set bunch than the male flowers, which have five perfect stamens, and two summits, but no germen. These dioicous plants have been observed in Germany by JACQUIN and LEERS, but the female plant much more rarely than the male. Mr. ROBSON informs me that it is frequent about Darlington, and that the plants are often male and female.

R. Spikes upright; petals oblong; floral-leaves shorter than the flowers. (Linn. Tr.) *spica'tum.*

E. bot. 1290—*Linn. Trans.* vol. 3. pl. 21.

This is not a hybrid, for its seeds produce perfect plants. It approaches to the *R. petraeum* of Jacquin in some respects, but the fruit of that species is pendent, which is not the case with this. The upright *spikes* are sufficient to distinguish it from all its congeners, Mr. ROBSON.

This new species of *Ribes* was first discovered and described by Mr. ROBSON. He had the first tree from the neighbourhood of Richmond, Yorkshire, and afterwards found it by the Tees, between Piersbridge and Gainford, in the county of Durham.

S. April—May.

Obs. Its floral-leaves being shorter than the flowers, will prevent its being taken for the *R. alpinum*.

R. Bunches hairy; flowers oblong.

ni'grum.

E. bot. 1291—*Ludw.* 91—*Kniph.* 2—*Fl. dan.* 556—*Walc.—Sheldr.* 91. 7, fruit—*Woodv.* 75—*Blackw.* 285. 6—*Dod.* 749—*Ger. em.* 1593—*J. B.* ii. 99. 1—*Park.* 1562. 2—*Park. ib.* 3.

Buds glandular. *Floral-leaves* woolly, and as long as the little fruit-stalks. *Flowers* woolly. *Leaf-stalks* a little woolly, and beset with glands. LINN. *Flowers* turban-shaped. *Calyx* segments often of a rich brown red colour. *Stamens* sometimes more than five, and then there are fewer petals; so that when there are ten stamens there are no petals. This change of the petals into stamens, is just the reverse of the process by which single flowers are known to become double, but it is the only fact of the kind that has occurred to my observation.

the *Icosandria*. With this simple guide a traveller in the most unknown wilderness might eat in safety, and thus the natural tree of knowledge leads to life." *E. bot.*

Squinancy Berries. Black Currents. Wet hedges and banks of rivers. (On Costesey island, near Norwich. Mr. ROSE. *Fl. Brit. E.*) [Alder swamps, Norfolk. Mr. WOODWARD.]

S. May.*

(2) *With prickles. GOOSEBERRIES.*

Grossula'ria. R. Branches prickly; fringe of the leaf-stalks hairy; berries hairy.

E. bot. 1292—*Walc.—Kniph.* 1.

(*Leaves* 3-lobed, cut, slightly pubescent. *Leaf-stalks* hairy, often longer than the leaves. *Fruit-stalks* one-flowered, nodding. *Fl. Brit. E.*) *Flower-scales* two, sometimes 3, opposite, embracing the fruit-stalk. STOKES.

Rough Gooseberry. Feaberry in Cheshire, Lancashire, and Yorkshire. (*Berries* in Scotland. E.) Hedges. WALC.—[And on old buildings and church towers. ST.—Woods and hedges about Darlington, common. Mr. ROBSON.] S. April.

Var. 2. Berries smooth: fruit-stalks with a flower-scale of one leaf.

E. bot. 2057—*Schmied.* 1—*Blackw.* 277—*Fuchs.* 187—*Trag.* 977—*Matth.* 167—*J. B. i.* 6. 47—*Lonic. i.* 43. 1—*Dod.* 748—*Lob. ic. ii.* 206. 1, obs. 617. 2—*Ger. em.* 1324—*Park.* 1560. 1.

(*Branches* prickly. E.) *Buds* woolly. *Calyx* bent back. *Bunch* none. *Fruit-stalk* woolly. *Flower-scale* egg-shaped, embracing the fruit-stalk, generally with 3 divisions. *Flower* single, pendent. *Leaf-stalk* fringed with knobbed hairs. A triple thorn beneath the buds. LINN.

(Since no permanent specific difference has been ascertained betwixt the smooth and rough varieties of this plant, it seems unreasonable that they should be longer separated by any imaginary distinction. The flower-scales afford no invariable mark, and as to even the roughness or smoothness of the berries, we have Mr. ROBSON's authority to state that from his own observation, seeds from the same plant will produce both rough and smooth Gooseberries. E.)

* The berries have a very peculiar flavour which many persons dislike; but their juice is frequently boiled down into an extract, with the addition of a small proportion of sugar; in this state it is called rob; and is much used in sore throats, chiefly in those of the inflammatory kind. The tender leaves tinge common spirits so as to resemble brandy. An infusion of the young roots is useful in fevers of the eruptive kind; and in the dysenteric fevers of cattle. Goats and horses eat the leaves. LINN.—A horse refused it. ST.—All the species are eaten by the *Phalena grossularia*.

Smooth Gooseberry. Ribes Uva-crispa. Linn. Fl. Brit. With. Ed. 4. Woods and hedges. Parker's Piece, Girtton, Shelford, Ditton, Harston church-yard, and Triplow, Cambridgeshire. RELHAN.—[Road between Newport and the Light-house in the Isle of Wight, in a hedge far from any house.]

S. April—May.*

HE'DERA. *Petals* 5, oblong: *berry* 4 or 5-celled, 3 to 5-seeded; juiceless, encircled by the calyx.

H. Leaves, some egg-shaped, others lobed.

He'lix.

Curt.—Fl. dan. 1027—*E. bot.* 1267—*Sheldr.* 103—*Blackw.* 188—*Trag.* 801—*Ger.* 708. 2 and 1—*Fuchs.* 722, and 723—*J. B.* ii. 111. 1 and 2—*Dod.* 413, 1 and 2—*Lob. obs.* 336. 2, and 337. 1—*Ger. em.* 857. 1 and 2—*Park.* 678. 1, and 679. 4—*Matth.* 624 and 625.

When it trails on the ground its *branches* are small and weak, and its leaves with three lobes. CURTIS. In which state it does not produce fruit, and has been called *Barren* or *Creeping Ivy*. STOKES.—But when it climbs up walls or trees it grows much stronger, and the leaf changes to egg-shaped. CURTIS. *Leaves* glossy. *Blossom* greenish white. *Berries* black.

Common Ivy. Woods, hedges, and old buildings. S. Oct.†

ILLE'CEBRUM. *Calyx* 5 leaves, like gristle: *bloss.* none: *summit* simple: *caps.* 5-valved, 1-seeded.

I. Flowers in whirls, naked; stems trailings.

verticilla'tum.

* (The berries of both kinds, which by cultivation vary in colour from white to yellow, green, red, purple, and black, and in size from the dimension of a pea to that of a walnut, afford a very favorite and wholesome fruit, either fresh or preserved. The seeds of Gooseberries when washed, dried, roasted, and ground, are a good substitute for coffee. E.)

† The roots are used by leather-cutters to whet their knives upon. Its ever-green leaves adorn our walls, and cover the naked trunks of trees. Apricots and peaches covered with ivy during the month of February, have been observed to bear fruit plentifully. *Phil. Trans.* No. 475. The leaves have a nauseous taste. Haller says they are given in Germany as a specific for the atrophy in children, and they may be advantageously applied to issues. The berries have a little acidity. They purge and vomit. In warm climates a resinous juice exudes from the stalks. Horses and sheep eat it. Goats and cows refuse it. LINN.—Sheep are fond of it. ST—And in severe weather it is stripped off the trees as food. Mr. HOLLEFEAR.

PENTANDRIA. MONOGYNIA. GlauX.

Kniph. 12—*E. bot.* 895—*Fl. dan.* 335—*Vaill.* 15. 7—*J. B.* iii. 378. 2—*Pet.* 10. 7—*Ger. em.* 563—*Park.* 1333—*Ger.* 449. 1.

Leaves oval, keeled, fleshy, smooth. *Upper whirls* crowded near together, by no means so far asunder as represented in *Fl. dan.* Mr. WOODWARD. *Plant* about 3 inches high. *Flowers* whitish, (numerous. *Calyx* awned, permanent. *E.*)

Whorled Knotgrass. Marshes and wet pastures. [In Cornwall and Devon, not uncommon. On the road side betwixt Elnal and Ranton Abbey, Staffordshire.] P. July—Sept.

GLAU'X, *Cal.* 1 leaf: *bloss.* none: *caps.* 1-celled, 5-valved, 5-seeded.

maritima. G.

E. bot. 13—*Lob. obs.* 227. 2—*Ger. em.* 562—*Park.* 1283. 2—*Fl. dan.* 548—*Ger.* 448.

(*Stem*, little branched, cylindrical, thickly set with leaves. *Leaves* opposite, oblong, very entire, smooth, paler underneath. *Flowers* at the base of the leaves, solitary, nearly sitting. *Fl. Brit. E.*) *Leaves* oval-oblong. LINN. From 2 to 4 inches high; often trailing. *Flowers* numerous, purplish or whitish.

Sea Milkwort. Black Saltwort. Salt marshes, not uncommon. Salt Marsh at Ingestre, Staffordshire. Mr. BAGOT.—Norfolk coast. Mr. WOODWARD.—Cornish coast. Mr. WATT.—Near Bristol. Mr. SWAYNE.—(North Shore, and Knott's Hole, near Liverpool. Dr. BOSTOCK. *E.*)—Below King's Weston, near Bristol.—In Portland Island. P. June—July.*

THE'SIUM. *Cal.* 1 leaf, on which the stamens grow: *seed* 1; beneath.

linophyllum. T. Spike branched: floral-leaves by threes: leaves strap-spear-shaped: calyx tube very short. *E. bot.*

Dicks. h. s.—*E. bot.* 247—*Ger. prov.* 17. 1—*Relh. at p.* 99—*H. ox. xv.* 1. 3—*Kniph.* 9—*Clus. i.* 324. 1—*Ger. em.* 555—*Park.* 459. 6—*Ger.* 442. 7—*Pet.* 9. 5—*J. B.* iii. 461. 3.

Floral-leaves cloven into 3, the middle segment long and pointing downwards. WOODWARD. *Stems* ascending, mostly branched, and from 3 to 5 inches high; sometimes upright, but little branched, and 10 inches high. *Flowers* mostly in bunches, but sometimes the lower ones forming a panicle. *Calyx* 4 or 5-cleft, widely conical. *Stamens* 4 or 5.

* Cows eat it. Mr. ATKINSON says it is much used as a pickle.

Dr. Smith says that the *T. alpinum* differs from this in having a long tubular calyx, but that otherwise they are much alike. In a specimen of the *T. alpinum* from Switzerland, the leaves are not only broader than in our *T. linophyllum*, but standing more upright they clothe and nearly hide the stem, which is never the case with our plant.

Bastard Toad-flax. Dry heaths and hills in a calcareous soil. [Common in Dorsetshire. Dr. PULTENEY.—Chalk cliffs on the S. W. side of the Isle of Wight. Dr. STOKES.—Near Bury, Suffolk. Mr. WOODWARD.—In the loose sand by the ferry leading to Portland Island. Mr. STACKHOUSE.]—(Dry pastures at Stanton St. John, Oxfordshire. SIBTHORPE. E.)

P. June—July.

VIN'CA. Bloss. salver-shaped: seed-vess. 2 upright little bags: seeds naked.

V. Stems trailing; leaves spear-egg-shaped; flowers on minor fruit-stalks.

Curt. 172—E. bot. 917—Ludw. 75—Kniph. 1—Sheldr. 22—Blackw. 59—Dod. 405—Lob. obs. 360. 1—Ger. em. 894. 1—Park. 381. 1—J. B. ii. 131—Matth. 956—Walc.—Trag. 394—Fuchs. 360.

Leaves blunter, smooth at the edge. Fruit-stalks curved. Calyx short. LINN, Flowering-stem upright in the spring, but in autumn it bears flowers on the shoots of the year, which are trailing. Mr. WOODWARD. Calyx shorter than the tube of the blossom. Style inversely conical. Upper summit woolly. Leaf-stalks short. Blossom blue or white.

Lesser Periwinkle. Woods and hedges. Near Hampstead. Earsham Wood, and hedges near Diss, plentifully. Mr. WOODWARD.—Rainsal Brow, near Manchester, plentiful. Mr. CALEY.—(At Toxteth Park, near Liverpool, and in profusion at the Nut Woods, near Hale. Dr. BOSTOCK.—About Honingham church, near Norwich. Dr. SMITH.—In a lane leading from the Larches to the Moseley road, near Birmingham. E.)

P. April—May.*

* The ripe seed-vessel I have never been able to discover. CURTIS.—The fruit seldom comes to maturity, and *Casalpinus* seems the only one that has observed it in this state. It may, however, be easily obtained by planting the *V. major* in a pot, where the roots not having free room to extend themselves, the juices are more copiously propelled towards the pistil, which then expands into well-formed seed vessels. TOURNEFORT.

ma'jor.

V. Stems upright; leaves egg-shaped; flowers on fruit-stalks.

E. bot. 514—*Curt.* 222—*Tourn.* 45—*Walc.—Clus.* i. 121. 2—*Dod.* 406. 1—*Loh. obs.* 300. 2—*Ger. em.* 894. 2—*Park.* 381. 2—*J. B.* ii. 132—*Garid.* 81.

Leaves fringed with hairs at the edge. *Calyx* as long as the tube of the blossom. *Bloss. tube* woolly within, just above the anthers. *Leaf-stalks* long. *Blossoms* blue, with a blush of purple.

Greater Periwinkle. Woods and hedges but rare. [A grove in Thorpe, by Norwich. Mr. WOODWARD.—Isle of Wight, to the South of Yarmouth, plentiful.]—(In the lanes about Charlton and Dover.—Southrop, North-end, Northamptonshire, under a wall. MORTON.—In a lane leading from Battersea Meadow to Wandsworth. BLACKSTONE.—Banks of the Wharfe, near Wetherby. Mr. BRUNTON, in *Bot. Guide.* E.) P. May.

DIGYNIA.

HERNIA'RIA. *Cal.* with 5 divisions: *bloss.* none: *stam.* 5 perfect, and 5 imperfect: *caps.* 1-seeded.

gla'bra.

H. Plant smooth; herbaceous.

Fl. dan. 529—*E. bot.* 206—*Trug.* 527—*Matth.* 953—*J. B.* iii. 378. 3—*Ger.* 454—*Dod.* 114—*Ger. em.* 569—*Blackw.* 320—*Pet.* 10. 9—*Park.* 447. 9.

Stem prostrate, wood-like, and knotted at the bottom. *Branches* trailing. *Flowers* very numerous, without petals. *Floral-leaves* triangular, fringed. This is undoubtedly a perennial, and its *leaves* are generally fringed at the edge, so that I believe the *H. glabra* and *hirsuta* may be the same plant. Mr. STACKHOUSE. *Stems* from 4 to 8 inches long, trailing on the ground. *Flowers* yellowish. (*Leaves* egg-shaped, very entire, lower ones opposite, upper ones alternate. E.)

Smooth Rupture-wort. Gravelly soil. Lizard Point, Cornwall. HUDSON.—(Near Newmarket. Rev. Mr. HEMSTED.—Sandy shores, Portsmouth. MARTYN.—On a heath near Sleaford, on the road to Grantham. Rev. G. CRABBE, in *Bot. Guide.*—On the coast at Weston supra mare, Somersetshire. Mr. SOLE. E.) P. July—Aug.*

* Rather saltish and astringent. It increases the secretions by the kidneys. The juice removes specks in the eye. Cows, sheep, and horses eat it. Goats and swine refuse it.

Var. 2. Plant rough with hair; herbaceous.

E. bot. 1379—*Sheldr.* 110—*Pet.* 10, 10—*J. B.* iii. 379. 1—*H. ox.* v. 29. row 1. 2. 6.

(Only differing from the preceding in the stem, under surface of the leaves, and calyx being thickly set and rough with hairs. *Fl. Brit.*

In conformity with the opinion of that very intelligent botanist, Mr. Stackhouse, and indeed of Linnæus himself, I have ventured to reduce this hitherto ill-characterized species to a mere variety. *E.*)

Hairy Rupture-wort. Herniaria hirsuta. Linn. *E. bot.* With. *Ed.* 4. Gravelly soil. Colney Hatch, near Barnet, Cornwall. P. July—Aug.

CHENOPO'DIUM. *Cal.* with 5 clefts and 5 ribs; *bloss.* none: *seed* 1, round but flattened, superior, horizontal, covered by the closing calyx.

(1) *Leaves angular.*

C. Leaves triangular-arrow-shaped, very entire; spikes compound, leafless, axillary. Bonus-Henricus.

Curt. 184—*E. bot.* 1033—*Ludw.* 185—*Fuchs.* 463—*J. B.* ii. 965. 2—*Fl. dan.* 579—*Ger.* 259—*Trag.* 217—*Matth.* 598—*Dod.* 651—*Lob. obs.* 129. 2—*Ger. em.* 329—*Park.* 1225. 6—*H. ox.* v. 30. row 2. n. 1. *figure 3d*—*Pet.* 7. 12—*Blackw.* 311—*Munt.* 191.

Little spikes alternate, sitting. *Flowers* congregated; sitting. LINN. *Leaves* waved at the edge. *Blossom* greenish white. HALL. *Lower little spikes* on short fruit-stalks rising from the bosom of the flower-leaves.

Common English Mercury. Wild Spinach. Amongst rubbish, on road sides, and walls, [and sometimes in pastures. *St.*]

P. May—Aug.*

C. Leaves triangular, somewhat toothed; bunches crowded, quite straight, laid close to the stem, very long. ur'bicum.

E. bot. 717—*Fl. dan.* 1148—*Pet.* 8. 8.

* Cultivated as spinach by the poor people at Boston, in Lincolnshire. CURT.—The young shoots peeled and boiled, may be eaten as asparagus, which they resemble in flavour. They are gently laxative. The leaves are often boiled in broth. The roots are given to sheep that have a cough.—Goats and sheep are not fond of it. Cows, horses, and swine refuse it.

Possibly a variety of *C. rubrum*. There seems no distinction except in the bunches; but in the English Botany we are informed, on the authority of Mr. Curtis, that an attention to the size of the seeds will readily determine betwixt these two species; the ripe seeds of *C. rubrum* being no larger than grains of writing sand, whereas those of *C. urticum* are at least five times that size, or about as big as rape seed. *Calyx* smaller. Mr. WOODWARD. *Leaves* widely and deeply notched.

Upright Goosefoot. Broad-pointed Blite. Dunghills, and amongst rubbish. A. Aug.—Sept.

rubrum.

C. *Leaves* heart-triangular, rather blunt, and toothed; bunches upright, compound, somewhat leafy, shorter than the stem.

Curt.—Fl. dan. 1149—*E. bot.* 1721—*Fuchs.* 653—*J. B.* ii. 975. 2—*Dod.* 616. 1—*Ger. em.* 328. 1 and 2—*Matth.* 462—*Lob. obs.* 128. 1—*Park.* 749. 8—*H. ox.* v. 31. row 2. 2—*Pet.* 8. 6.

When full grown, red and spreading. *Stems* lying on the ground. *Leaves* thick, shining. *Spikes* with sitting balls of flowers, interspersed with strap-shaped leaves. LINN. (*Seeds* extremely small. CURTIS. E.) *Bunches* short, close, branched. WOODWARD. *Leaves* trowel-shaped, toothed, indented; teeth tapering. *Bunches* upright, compound, leafy, shorter than the leaves. Dr. STOKES. *Leaves* with their leaf-stalks as long or longer than the branches that rise from them; no shining spangles upon them or the calyx, so as to give the plant a white appearance, but when held against a strong light an infinite number of shining particles appear. *Bunches* sitting in the bosom of the upper leaves.

Red Goosefoot. Sharp-pointed Blite. Sowbane. Dunghills, rubbish, and cultivated ground, A. Aug.—Oct.

album.

C. *Leaves* diamond-triangular, gnawed, entire behind; the uppermost oblong: bunches upright.

Curt.—Blackw. 553—*E. bot.* 1723—*Fuchs.* 119—*J. B.* ii. 972. 1—*Dod.* 615. 2—*Ger. em.* 326. 6—*Ger.* 257. 4—*Pet.* 8. 2.

Plant whitish when full grown. *Bunches* always branched, and, as it were, tuftlike, straight, composed of clustered spikes. *Spikes* small, egg-shaped, sitting, alternate, crowded; composed of flowers set close together. *Flower-leaves* strap-shaped, very entire, sitting, small, two or three to each spike. LINN. (*Seeds* very smooth, not dotted. E.) *Stem* shining, bluntly angular, streaked with green, purple, and white. *Branches*, two together, especially at the lower part of the stem. *Leaves* with three semi-transparent veins springing from the base, sprinkled, espe-

cially on the under side, with white shining particles; the upper spear-shaped.

Common Wild Orache. White Goosefoot. Corn fields, old dung-hills, rubbish, and gardens, common. A. Aug.*

(Var. 2. HUDSON. Angles of the stem purple. Seeds dotted. E.)

Curt. 103—*Fl. dan.* 1150—*Vaill.* 7. 1—*Pet.* 8. 3.

Stem upright, green; with purplish angles. *Leaves of the branches* spear-shaped, very entire, with only one or two teeth. *Bunches* thread-shaped, divided, long, bare. *Calyx* of the fruit with five sharp angles. LINN. Angles of the joints constantly bright red. *Seeds* reticulated with impressed dots. CURTIS.

Green Goosefoot. Chenopodium viride. Linn. With. Ed. 4. *C. album. var. γ.* Fl. Brit. Kitchen gardens, common. A. Aug.

Var. 3. HUDSON. Leaves generally very entire, sometimes toothed. RAY p. 155. n. 12.

J. B. ii. 973. 2.

Var. 4. HUDSON. Leaves thick, blunt. RAY p. 156. n. 13.

A. Aug.—Sept.

C. Leaves heart-shaped, with angles tapering to a point; hybridum. bunches branching, leafless.

Curt. 248—*Vaill.* 7. 2—*E. bot.* 1919—*Barr.* 540—*Pet.* 8. 7.

(*Seeds* marked with large dots. *Fl. Brit.* E.) *Leaves* rather lopped at the base; two or three large teeth on each side. *Bunch* at first compact, but forming a panicle when fully expanded, much lighter and more widely scattered than in any of the preceding species.

Maple-leaved Goosefoot. (In Battersea fields. CURTIS.—About Colchester. DALE. E.)—Rubbish, kitchen gardens, and corn fields. Near Northfleet. A. Aug.

C. Leaves egg-oblong, serpentine; bunches naked, simple, glaucous. clustered.

E. bot. 1454—*Fl. dan.* 1151—*J. B.* ii. 973. 1—*Pet.* 8. 1.

(*Stems* spreading, thick. *Seeds* dotted in hollows. *Fl. Brit.* E.) Smaller than any of the preceding. *Leaves* glaucous green on the under surface.

Oak-leaved Goosefoot. On rubbish.

A. Aug.

* Cows, goats, and sheep eat it. Horses refuse it. Swine are extremely fond of it. LINN. Horses sometimes eat, and even appear fond of it. Sr. A black *Aphis* feeds upon it, and sometimes destroys it. Sr.

- mura'le*. C. Leaves egg-shaped, shining, toothed, acute; bunches branching, leafless.

E. bot. 1722—*Pet.* 8. 5—*Ger.* 256. 2—*J. B.* ii. 976. 1.

(*Stem* very much branched. *Leaves* triangular-egg-shaped, lengthened at the base. *Seeds* very minutely dotted. The plant smelling disagreeably. *Fl. Brit.* *Stem* often tinged with dark purple. *E.*) Of a green colour. *Stems* upright, open, thick, smooth on the upper side. *Leaves* thickish, glossy, smooth, very like those of *C. rubrum*, but more sharply toothed. *Flowers* in a corymbus, as in *C. hybridum*, not in bunches as in *C. rubrum*. Fruit in a sort of panicle. LINN.

Nettle-leaved Goosefoot. Thick Shining Blite. Dunghills, and rubbish. A. July—Aug.

(2) *Leaves entire.*

- olidum*. C. Leaves very entire, diamond-egg-shaped; flowers congregated, axillary.

Curt.—Fl. dan. 1152—*E. bot.* 1034—*Woodv.* 145—*Ger.* 258—*Dod.* 616. 2—*Lob. obs.* 128. 4—*Ger. em.* 327—*Park.* 749. 9—*Pet.* 7. 11—*Blackw.* 100—*J. B.* ii. 975. 1—*H. ox.* v. 31. 6.

Trailing on the ground and smelling like salt fish. (*Leaves* whitish, powdery. *E.*)

Stinking Orache. Stinking Goosefoot. Ch. vulvaria. LINN. (In general it is most plentiful near the sea-coast among sand or rubbish. *E. bot.* *E.*) Road sides, old walls, and on rubbish. [At the foot of the Walls, Yarmouth; and at Cambridge. Mr. WOODWARD.—Opposite Shoreditch Workhouse. Mr. WHATELY.] A. Aug.*

- polysper'-mum*. C. Leaves very entire, egg-shaped; stem upright, or nearly so; calyx of the fruit open. CURTIS.

Curt.—Fl. dan. 1153—*Fuchs.* 174—*H. ox.* v. 30. row 3. 6—*Dod.* 617. 2—*J. B.* ii. 967. 2—*H. ox. ib.* 3—*Ger.* 257. 3—*Pet.* 7. 10—*Lob. obs.* 129. 1—*Ger. em.* 325. 3—*Park.* 754. 3.—*E. bot.* 1480?

Leaves sometimes in the more luxuriant plants with a large tooth on one, and sometimes on both sides. Dr. STOKES. *Stem* 4-square, bright red. *Seeds* reddish. CURTIS. *Leaves* egg-spear-shaped. *Stamens* very evanescent; it is rare to meet with 5; sometimes there are only 3, often but 1 or 2, frequently none.

* Scent rank, and fetid. It has the reputation of being an anti-hysterical. Cows, horses, goats, and sheep eat it. Swine refuse it.—The *Phalana exsoleta* is found upon it.

(Dr. Smith describes this plant with stems prostrate; we have again examined several specimens, and still think they agree with the figure and character of Curtis: perhaps our plant on further investigation, may prove to be other than the real *C. polyspermum* of Linnæus. In the English Botany, vol. 21. p. 1481. we find our plant cited as *C. acutifolium* of that work. E.)

Upright Blite. All-seed Goosefoot. Cultivated ground and dunghills. [Generally in turnip fields. Mr. WOODWARD.]

A. July—Aug.

C. Leaves awl-shaped, semi-cylindrical.

maritimum.

Dicks. h. s.—E. bot. 633—Fl. dan. 489—Dod. 81. 2—Ger. em. 535. 3—Park. 279. 2—Lob. ad. 170. 1—Pet. 9. 1.

(Stem upright, very much branched. *Fl. Brit. E.*) Leaves accurately semi-cylindrical. Mr. WOODWARD. Branches alternate. Flowers solitary, axillary. Style single. Summits 3, pink-coloured. Seeds glossy.

Small White Glasswort. Sea Goosefoot. Sea shore. [Salt marshes. Mr. WOODWARD.]

A. Aug.*

A'TRIPLEX. Bloss. none. Flowers some hermaphrodite: others fem. on the same plant.

Herm. *Calyx* 5-leaved: seed 1, depressed, upright.

Fem. *Calyx* 2-leaved; seed 1, compressed.

A. Stem shrub-like; leaves inversely egg-shaped.

portulacoides.

E. bot. 261—Dod. 771. 1—Ger. em. 523. 2—Matth. 160—J. B. i. b. 228—Kniph. 2—Clus. i. 54—Lob. obs. 213. 1; ic. i. 392. 1—Ger. em. 523. 3—Park. 724. 1—Pet. 7. 7.

(A small shrubby plant, about one foot and a half high. Stems leafy, branched, 4-cornered, hoary as is the whole plant. E.)—Stem and branches usually declining. Leaves sea-green, the young ones spear-shaped, and strap-spear-shaped. Bunches branched, terminating, and from the bosom of the upper leaves, with a few small leaves interspersed. Mr. WOODWARD. Whitish. Spikes greenish purple.

Shrubby Orache. Sea Purslane. Sea shores on a clayey soil. S. July—Aug.

* An excellent pot-herb.—The *Phalæna Lubricipeda* feeds upon most of the species.

lacinia'ta. A. Stem herbaceous, spreading; leaves trowel-shaped, angular and toothed; very mealy underneath. *E. bot.*

Dicks. h. s.—*E. bot.* 165—*Matth.* 463—*Park.* 748. 4—*Ger.* 257. 4—*Dod.* 615. 4—*Lob. obs.* 128. 3, *ic.* i. 255. 1—*Ger. em.* 325. 4—*J. B.* ii. 974. 1—*H. or.* v. 32. 17—*Pet.* 7. 3.

Stem much branched, spreading, generally prostrate, smooth, yellowish or reddish. *Leaves*, the lower trowel-shaped, the upper trowel-spear-shaped; below very entire at the edge, above variously jagged, sprinkled with a shining mealiness; mostly alternate, some few even of the upper ones opposite. *Leaf-stalks* very short. *Valves of the seeds* very large, trowel-shaped, covered with the same mealiness as the leaves. *WOODWARD.* *Female flowers* axillary. *E. bot.*

Frosted Orache. Sea shores. Pakefield, Suffolk. Mr. STONE.—Ramside opposite the Isle of Walney and Rosebeck Low Furness, Lancashire Mr. WOODWARD.](At Newhaven, near Edinburgh;—near Harwich. Dr. SMITH.—Near Marsden Rocks, Northumberland. Mr. WINCH, in *Bot. Guide.* E.)

A. July—Aug.

(pa'tula. A. Stem herbaceous, spreading; leaves trowel-spear-shaped; valves of the seeds armed with sharp points only at the edges. *Fl. Brit.* E.)

Curt.—*E. bot.* 936—*H. or.* v. 32. 14—*Pet.* 7. 1.

(*Bunches* both terminating and axillary, leafy. *Fl. Brit.* E.) Varies in the *stem* being upright or trailing; the *leaves* trowel-shaped and indented-toothed, or toothed, or entire. *HUDSON.* *Stems* angular and somewhat furrowed. *Leaves* triangular and halberd-shaped, the appendages longer or shorter, toothed or entire, the upper usually spear-shaped and entire. *Valves of the seeds* larger than those of the *A. angustifolia*, flatter, and toothed only at the edges. *Branches* often horizontal, and even bending down. Mr. WOODWARD.—(*Leaves* on long leaf-stalks, rather powdery underneath. *Seed* large, somewhat convoluted, slightly dotted. *Fl. Brit.* E.)

Delt Orache. *Wild Orache.* *Atriplex hastata.* With. Ed. 4. (A very different plant from the *A. hastata* of Linn. *Fl. Brit.* E.) On rubbish, dunghills, and in kitchen gardens.

A. Aug.—Sept.*

Var. 2. Stems trailing. Leaves hardly indented. *RAY.* All the leaves oval-spear-shaped, very entire. Mr. WOODWARD. (fleshy, tinged with red. E.)

* It is sometimes gathered as a pot-herb, and eaten in lieu of spinach and other greens. Cows, goats, sheep, and swine eat it, but do not seem to be fond of it.

J. B. ii. 974. 2—*Chabr.* 306. 4—*Pet.* 7. 2.

(*Delt Sea Orache. Spreading Halberd-leaved Orache.* By the sea side the whole plant is procumbent, more fleshy, and all the leaves sometimes entire. *E.*)—Banks of the sea marshes near Maldon, Essex. About London, and on the sea side in Selsey, in Sheppey Island. *R. Syn.* [Yarmouth. Mr. Woodward.]

(*A.* Stem herbaceous, spreading; leaves spear-shaped, very angustifoliate; the lower leaves somewhat halberd-shaped; calyx of the fruit halberd-shaped, smoothish. *E.*)

E. bot. 1774—*Lob. obs.* 129. 4; *ic.* i. 257. 2—*Ger. em.* 326. 7—*Park.* 748. 7—*H. ox.* v. 32. 15—*Pet.* 7. 5—*J. B.* ii. 973. 3. 4.

(Resembles *A. patula*, but is more spreading. Leaves on shorter leaf-stalks, almost all spear-shaped, very entire, horizontal; the lower ones broader, but not toothed. Valves of the seeds deltoid-halberd-shaped, sharp pointed; border very entire; disk scarcely ever toothed. Seed only half the size of the former, not dotted. *Fl. Brit. E.*)

Spreading Narrow-leaved Orache. Spear Orache. Atriplex patula. With. *Ed.* 4. On rubbish and ditch banks.

A. Aug.

(*A.* Stem upright, herbaceous; leaves egg-spear-shaped; erect. the lower ones indented; the calyxes of the seeds covered with sharp points.

E. bot. 2223.

Stem branched, strong and stiff. Leaves on leaf-stalks, slightly powdery, sharp pointed; the upper ones nearly entire. Bunches terminating, compound, many-flowered, almost leafless. The fruit only one third as large as that of the former species, trowel-shaped, sharp-pointed, gibbous, the surface beset with prominent tubercles. Seed like that of the former, but smaller. A very distinct species, easily known by its small fruit and numerous prickles. *Fl. Brit.*

Upright Spear-leaved Orache. Atriplex erecta. Huds. *Fl. Brit.* *A. patula.* var. 2. With. *Ed.* 4. At the entrance into Battersea field from Nine Elms. *R. Syn.* *A. Aug. E.*)

A. Stem herbaceous, upright; leaves all strap-shaped; littoralis. very entire. LINN. or serrated. WOODWARD.

Var. 1. Leaves very entire.

PENTANDRIA. DIGYNIA. *Atriplex*.*E. bot.* 708—*Pet.* 7. 6.

Differs from *A. patula* as follows. *Colour* always sea-green. *Stem* furrowed. *Leaves* not always very entire, but sometimes with scattered teeth, and bowed back at the end. WILLICH. ill. n. 6. *Stems* numerous, at first trailing, afterwards declining or upright, much branched. *Leaves* perfectly strap-shaped, the lower now and then toothed. *Valves of the seeds* triangular, toothed at the edges.

By the Pier at Ramsgate. *R. Syn.* [Yarmouth, Blakeney, and Wells, Norfolk. Mr. WOODWARD.—Chisselbank, Portland Island. Mr. STACKHOUSE.]

Var. 2. HUDS. *Boccon. rar.* 30. 1—*H. ox.* v. 32. 20.

Var. 3. HUDS. *Leaves* blunter. Probably a variety of 1. Ramsgate Pier, Kent. *R. Syn.*

Var. 4. *Leaves* toothed. WOODWARD.

Gmel. iii. 14. 2—*Pet.* 7. 4.

Leaves strap-shaped, alternate, fleshy, toothed, not very entire; in our country at least. ROTH. *Atriplex marina* according to Mr. Lightfoot, but Linnæus describes his *marina* as a plant about a hand's breadth high. Mr. WOODWARD. *A. serrata*. *Stem* herbaceous, nearly upright. *Leaves* strap-shaped, serrated. HUDSON. *A. littoralis*. Roth. ii. 89. n. 27. ST. I have found some stems with the very narrow entire leaves of the *A. littoralis*, and others, which were the largest and strongest, entirely clothed with broader narrow elliptical leaves, toothed or jagged throughout, and serrated leaves both from the same root. Mr. WOODWARD.

Grass-leaved Sea Orache. Jagged Long Orache. Atriplex valvis seminum integris foliis omnibus ex lineari-lanceolatis, integris et ex sinuato-dentatis. *Gmel.* sib. iii. p. 72. Mr. WOODWARD. Seashores and on rubbish. By the river and on the banks of the marshes about Maldon, Essex, *R. Syn.* [Wells, Norfolk. Mr. CROWE—and Yarmouth and Blakeney, Norfolk. Mr. WOODWARD.—At Wisbeach. Rev. R. RELHAN.] A. Aug.

peduncu-
la'ta.

A. *Stem* herbaceous, straddling; leaves spear-shaped, blunt, entire; female flowers on fruit-stalks.

E. bot. 232—*Pluk.* 36. 1—*Pet.* 7. 8—*Fl. dan.* 304.

Branches straddling. *Bunches* terminating, axillary. *Fruit-stalks* lateral, simple, in pairs or incorporated. *Calyx* resembling the fruit of *Thlaspi Bursa Pastoris* with three lobes, the middle-most the smallest. LINN. *Stem* much branched. *Leaves* some

inversely egg-shaped, sea green. *Female flowers* on long fruit-stalks. *Valves of the fruit* egg-shaped, the middlemost lobe triangular and short. Mr. WOODWARD.

Stalked Orache. Sea shores. Near Skirbeck, one mile from Boston, and in the Isle of Thanet, near the Ferry. *R. Syn*. Near Yarmouth, [in the salt marshes out of the North gates. Mr. WOODWARD.—At Lynn. Dr. J. E. SMITH and Mr. CROWE.] (Hartlepool. Mr. ROBSON, in *Bot. Guide*.—Shore of Braydon, Suffolk. Mr. WIGG. E.) A. July—Sept.

Var. 2. Smaller; leaves small. Near Lynn, Norfolk. *R. Syn*.*

HU'MULUS. Male and female flowers on different plants: *bloss.* none.

Male. *Calyx* 5-leaved.

Female. *Calyx* 1-leaved, with a slanting opening, entire: *seed* 1, within a leaf-like calyx.

H.

lu'pulus.

E. bot 427—*Mill. ill-Kniph.* 9—*Gars.* 355—*Blackw.* 536.
a. b.—*Clus.* i. 126. 2—*Dod.* 409. 1—*Lob. obs.* 347. 2; *ic.* i. 629. 1—*Ger. em.* 885—*Park.* 177—*Ger.* 737. 1—*Cam. epit.* 933 *fem. and male* 934—*Fuchs.* 164—*J. B.* ii. 151—*Trag.* 812—*Matth.* 1213—*Ger.* 737—*J. B.* ii. 152—*Lon.* i. 208. 3.

Stems climbing and winding to the right, (very long, dying down to the root at the commencement of frost, angular. E.) *Leaves* lobed, serrated, (opposite, rough. E.) *Flowers* greenish yellow.

Common Hops. In hedges, (particularly of the middle and southern Counties of England. E.) P. June.†

* The July Arrach Moth, *Phalæna Atriplicis*, *Phalæna lubricipeda*, *Phalæna exsoleta*, *Phalæna Oxyacanthæ*; and *Aphis Atriplicis* are found upon the different species.

† The English, according to the most credible accounts, learned the use of Hops from some native of Artois, who, in the beginning of the 16th century, introduced them into this country; but a long time after the addition of them to beer was held to be an adulteration of that liquor. MONTH. MAG.—If the hop-yards were covered with stones, the plants would be less liable to suffer from the honey dew or from the Otter-Moth: for the honey dew is the excrement of a species of *Aphis*, but these insects seldom increase so as to endanger the plant, unless it be in a weak condition; and the larvæ of the Otter-Moth at the roots, first occasion the plant to be sickly. When the hop grows wild in stony places and fissures of rocks, where the moth cannot penetrate to de-

BE'TA. *Cal.* 5-cleft, 5-ribbed; closed on the ripened seed: *bloss.* none: *seed* kidney-shaped, horizontal, beneath, in the substance of the base of the calyx.

mari'tima. B. Flowers in pairs; segments of the calyx very entire.

E. bot. 285.

Differs from *B. vulgaris* in flowering the first year; in the leaves growing oblique or vertical; in the leaves of the cup being equal, and not toothed. LINN. *Stems* prostrate. *Flowers* either solitary or in pairs. *Summits* sometimes three. *E. bot.*

Sea Beet. Sea coast, and about Nottingham. (Near the South Steel Battery, Scarborough. Mr. TRAVIS. E.)—[Near Lynn, Yarmouth, and Wells. Mr. WOODWARD.—Isle of Wight. ST. Dorsetshire coast.] P. July—Sept.

SAL'SOLA. *Calyx* 5-cleft: *bloss.* none: *seed* 1, beneath; coated by the calyx.

Ka'li. S. Herbaceous, lying down; leaves awl-shaped, thorny, rough; calyx bordered, axillary.

E. bot. 634—*Fl. dan.* 818 *left hand fig.*—*Woodv.* 143—*Dod.* 81. 1—*H. ox.* v. 33. 11.

posit its eggs, the hop is never known to suffer from the honey dew.—The flowers of the female plants are very generally infused in wort or boiled along with it to prevent the ale or beer becoming sour. The young shoots are eaten early in the spring as asparagus, and are sold under the name of Hop-tops.—Strong cloth is made in Sweden from the stalks. For this purpose they must be gathered in autumn, soaked in water all winter, and in March, after being dried in a stove they are dressed like flax.—Horses, cows, sheep, goats and swine eat it. The *Papilio Jo. C. album*, the Otter, *Phalæna Humuli* and *Rostralis* live upon it. It will dye wool yellow. What is that electrical murmur like very distant thunder when the hop-poles are shaken by the wind? LINN. Soil and cultivation occasion some varieties, as the *Garlic*, *Long White*, and *Oval Hop*; but for the common purposes of brewing they are distinguished as *Kentish* or *Worcestershire Hops*.—A decoction of the roots, or from 20 to 30 grains of the extract is said to be sudorific and to answer the purposes of the Sarsaparilla.—(A pillow filled with hops is reported to produce comfortable repose in cases where Opiates have been unsuccessful.—The bine or straw of hops contains an excellent hemp for making cloth, canvass, ropes, and the very best materials for making all kinds of paper. Instead of being thrown away or burnt after the hops have been picked, it should be steeped for five or six days in water, and beat in the same way as is done with flax and hemp. Mr. HALL, in *Month. Mag.* 26.

(*Stems* stiff and rigid, very much branched, leafy, pubescent. *Leaves* alternate, lying very wide, channeled. *Flowers* at the bosom of the leaves, solitary, sitting. *Seed* top-shaped, with lobes convoluted. *Fl. Brit. E.*) *Flowers* greenish.

Prickly Glasswort or Kelpwort. [Sandy sea shores, frequent. MR. WOODWARD.] A. July—Aug.

S. Shrub-like, upright; leaves thread-shaped, bluntish; fruticosa without prickles.

E. bot. 635—*Lob. adv.* 163. 3—*J. B.* iii. 704. 2.

(*Stem* woody, cylindrical, much branched, branches upright, leafy. *Leaves* alternate, fleshy, smooth, rather glaucous. *Flowers* axillary, solitary, sitting, green. An elegant evergreen shrub, sufficiently ornamental for the garden. *Fl. Brit. E.*)

Shrub Stone-Crop, or Glasswort. Shrubby Salt-wort. Seashore. (At Wells and Cley. MR. CROWE.—Thorinham, Norfolk. Rev. MR. SUTTON.—At Weymouth. A. B. LAMBERT, Esq. *Fl. Brit. E.*) [Near Southwold, Suffolk. MR. WOODWARD.] S. Aug.

UL'MUS. *Cal.* 5-cleft: *bloss.* none: *caps.* superior, 1-celled; leaf-like and compressed: *seed* solitary.

U. Leaves doubly serrated, unequal at the base; flowers *campes'tris*. almost sitting, crowded together.

E. bot. 1886—*Woodv.* 197—*Fl. dan.* 632—*Hunt. Evel.* i. p. 114. ed. 2—*Park.* 1404. 1. 6—*Matth.* 144—*Lob. obs.* 607. 1—*Ger. em.* 1480. 1—*Park.* 1404. 1—*Ger.* 1297. 1—*Trag.* 1087.

The *flowering-buds* are beneath the leaf-buds. *Flowers* in a kind of corymbus. *Bark* of the trunk cracked and wrinkled.

Common Elm. Hedges. Not found to the north of Stamford. RAY. Plentiful in Worcestershire and Middlesex. Chiefly in hedge rows. T. March—April.*

* A decoction of the inner bark drank freely has been known to carry off the water in dropsies.—It cures the *Lepra ichthyosis* of Sauvages. *Lettsom's Med. Mem.* § 3.—The bark dried and ground to powder has been mixed with meal in Norway to make bread, in times of scarcity.—The flowers have a violet smell.—The wood being hard and tough is used to make axle-trees, mill-wheels, keels of boats, chairs and coffins.—The tree is beautiful, and well adapted to make shady walks as it does not destroy the grass, and its leaves are acceptable to cows, horses, goats, sheep and swine; for this purpose it should be grafted upon the *U. glabra*, and then the roots will not send out suckers, which the common elm is very apt to do, and give a great deal of trouble to keep the ground clear

PENTANDRIA. DIGYNIA. *Ulmus*.

Var. 2. *small*. Differs from the preceding only in the smallness of all its parts. RAY. (*Leaves* doubly and sharply serrated, pointed, rough, unequal at the base. *Flowers* on short stalks, four or 5-cleft, with four or five stamens; fruit roundish, naked, cloven; branches spreading; their bark corky. *E. bot. E.*)

E. bot. 2161—*Dod.* 837—*Ger. em.* 1480. 2—*Park.* 1404. 4.

Between Christ Church and Lymmington. RAY.—In Lord Dudley's Woods, at Himley, Staffordshire. (Frequent in Sussex. *E.*)

Narrow-leaved Elm. Cork-barked Elm. U. suberosa of Ehrhart, Willdenow, and *E. bot. U. campestris*. β . *Fl. Brit.*

Var 3. *Leaves smooth. GER. EM. RAY. &c.*

Stamens from 4 to 6.

E. bot. 2248—*Ger.* 1297. 2—*Ger. em.* 1481. 4—*Park.* 1404. 3.

Smooth-leaved Wych Elm. Ulmus glabra. *E. bot.* Road beyond Dartford, and near Rumford. RAY. and GER. [Growing to a very large size in Edgbaston Park, near Birmingham.]

T. March—April.

montana.

U. *Leaves* doubly serrated, unequal at the base, egg-shaped but taper-pointed; smooth.

E. bot. 1887—*Lob. ic. ii.* 189. 2—*Ger. em.* 1481. 3—*Park.* 1404. 2.

Bark of the trunk very much cracked, that of the branches smooth. *Flowers* scentless, from 6 to 15 in a corymbus; leaf-buds and flower-buds distant. Mr. GOUGH. Clefts of the calyx 5, 6, and in one instance 4 and 9. *Stamens* 5 and 6. *Summits* 3. I am clearly of opinion that it is a distinct species. STOKES. *Flowers* on long fruit-stalks.

The *bark* will peel from the boughs for many feet without breaking. The *boughs* spread themselves wider, and hang more down than those of the *U. campestris*. *Leaves* and *seeds* much larger. JOHNSON in *Ger. em.* *Trunk* soon dividing into long wide-spreading winged branches; when at its full growth seldom rises to above one third of the height of the *U. campestris*. It flowers when even under 30 feet high, while the *U. campestris* seldom flowers till it has gained a much greater age and height. *Branches* very brittle. Dr. STOKES.

Wych Hasel. Broad-leaved Elm. Ulmus montana. C. B. pin. *Ulmus effusa.* Willden. Shady lanes, and outskirts of woods.

of them.—It loves an open situation, and black or clayey soil. It bears to be transplanted.—*Papilio polychloros*, and *C. album*; *Phalæna lubricipeda*, *Pavonia betularia* and *vellica*; *Cimex ulmi* and *striatus*; *Cicada ulmi*; *Aphis ulmi* feed upon it. The latter generally curl the leaves, so as to make them a secure shelter against the weather. LINN.—Silk-worms will devour the tender leaves with great avidity. *Trans. of Soc. of Arts*, ii. 157.

RAY. It is certainly a native. LIGHTFOOT. In Scotland, and the north of England, it seems more peculiarly to prevail, from the scarcity of the *U. campestris*, which last Linnæus notes as growing near the villages of Europe, whereas this species is found in woods and brakes, as well as hedge rows. ST. [About Kendal, in Westmoreland. Mr. Gough.] T. March—April.*

SWERTIA. Bloss. wheel-shaped; nectariferous pores at the base of the segment: caps. 1-celled, 2-valved.

S. Blossoms 5-cleft; root-leaves oval.

peren'nis.

Jacq. austr. 243—E. bot. 1441—Kniph. 7—Clus. 1. 316. 2—Ger. em. 433. 5—Barr. 91—H. ox. xii. 5. 11.

(A beautiful plant. Stem upright, undivided, a foot high, rather 4-cornered, smooth, but few leaves on it. Almost all root-leaves, on leaf-stalks, very entire, slightly veined, smooth. Spike terminating, upright. Fruit-stalks opposite, angular, one-flowered, with floral-leaves at the base. Floral-leaves sitting, elliptic-oblong, very entire. Flowers greyish purple, scentless. Segments of the cup awl-shaped, open. Blossom expanding, segments elliptical, sharp-pointed, spotted with black. Stamens awl-shaped. Anthers vane-like. Seed-bud egg-shaped, compressed. Style very short, deeply divided. A very bitter herb. Fl. Brit. E.)

Marsh Gentan. Marsh Felwort. Mountainous places in Wales. (Found in Wales by Dr. Richardson. HUDSON. E.)

P. Aug.

GENTIANA. Bloss. 1 petal: recept. of the seeds 2, placed lengthwise: caps. 2-valved, 1-celled.

G. Blossoms 5-cleft, bell-shaped. on fruit-stalks; leaves strap-shaped. Pneumonan'the.

Dicks. h. s.—Khaph. 8—Fl. dan. 269—E. bot. 20—Gmel. iv. 51. A.—Matth. 646—Clus. i. 313. 2—Lob. obs. 166. 2—Ger. em. 438—Park. 406. 1—H. ox. xii. 5. 12—Ger. 355—Barr. 51. 1—J. B. iii. 524. 1.

(Stem about a span high, upright, undivided, leafy, 4-cornered. Flowers few, terminating and axillary, of a beau-

* (This tree, though beautifully picturesque when full grown, is far less valuable than the former for timber. E.)

tiful blue colour, plaited; the folds greenish. *Anthers* united at the base. *Styles* bent back. The plant bitter to the taste: *Fl. Brit. E.*)

As the flowers are not always opposite, not even in large and cultivated specimens, that circumstance is omitted in the *Sp. char.* because, as Dr. Smith has well observed, it can only tend to mislead.

Blossoms blue.

Calathian Violet. *Marsh Gentian.* Moist pastures. [Stratton Heath, Norfolk. Mr. CROWE.—Newton Heath, near Manchester. Mr. CALEY.—Rollesby Heath, and Hopton Heath, near Yarmouth. Mr. WIGG.—In a marsh on a heath near Holmes Chapel, Cheshire. Mr. HUNTER.—Walney Isle. Mr. JACKSON.—(Near Bootle, and on Childwall Common, near Liverpool. Dr. BOSTOCK and Mr. SHEPHERD. E.) P. Aug.

ver'na.

G. Blossom 5-cleft, funnel-shaped, tooth-serrated, longer than the stem: root-leaves crowded, larger than the stem-leaves: summits fringed.

E. bot. 493—*Jacq. obs.* 71—*Cam. hort.* 15. 2—*Clus. hist.* 315. *Lob. ic.* 310. 2—*Ger. em.* 436—*Park.* 403.

Stem simple, supporting a single flower, ascending. *Leaves* rather fleshy, dotted with glands, ovate, not at all pointed; 4 or 6 in opposite pairs near the root, and two or three pairs on the stem. These pairs are united at the base so as to form a kind of cup round the stem. *Calyx* something more than half the length of the tube of the blossom. *Blossom* fine blue, seldom so long as the stem; segments serrated and toothed; between each segment there is a little blue 2-horned appendage, issuing from a white stripe in the tube of the blossom. *Anthers* shorter than the tube. *Summits* 2, funnel-shaped, fringed; open on the inner side.

This species and the *G. bavarica* are nearly allied; the most obvious difference consisting in the tuft of leaves at the base of the stem, which does not exist in the *bavarica*. This plant cannot be the *Gentianella fugax verna seu præcox*. Ray *Syn.* 275, if he has rightly quoted the figure of Col. Ecphr. t. 221.—*Gentiana bavarica.* *Jacq. obs.*

Spring Gentian. First discovered by the Rev. Mr. HARRIMAN and Mr. OLIVER, growing in great abundance in Teesdale Forest, county of Durham, both on the low grounds and on the bordering mountains, where it is vulgarly called *Spring Violet*, or *Blue Violet*. (It has since been found by the first named gentleman in Birkdale, in the parish of Appleby: and also abundantly on Cronkley Fell, and other places in Teesdale. E.)

P. April—May.

G. Blossoms 5-cleft, funnel-shaped; branches axillary, alternate, 1-flowered; calyx with 5 keeled angles.

E. bot. 896—*Fl. dan.* 17—*Lob. adv.* 131. and *ic.* i. 3. 10. 3—*Hall. enum.* 75.

(Stem upright, 4-cornered, branched, leafy; branches elongated, upright, one-flowered. Leaves oval; root-leaves sharp-pointed. Blossoms upright, elegant, of a beautiful blue colour, outside slightly tinged with green. Calyx tubular, 5-toothed, angles acute, scarcely keeled. *Fl. Brit. E.*) Blossom tube greenish, border a beautiful blue. HALLER.

Small Alpine Gentian. On Ben Lawers, Scotland. DICKSON. *Linn. Tr.* ii. 290. A. Aug.

G. Blossom 5-cleft, salver-shaped; mouth bearded; calyx 5-segmented equal.

E. bot. 236—*Fl. dan.* 328—*Kniph.* 7—*Walc.-Clus.* i. 316. 1—*Ger. em.* 437—*Park.* 406. 3—*H. ox.* xii. 5. 3—*Ger.* 354. 1—*Barr.* 510. 1—*J. B.* iii. 526. 2 and 3.

(Stems upright, 4-cornered, leafy, of various heights, terminating in a branched panicle. Leaves egg-shaped, 3-nerved, sitting. Blossom twice the length of the cup: tube cylindrical, whitish. Stamens inclosed. Styles short, divided to the very bottom. The plant intensely bitter. *Fl. Brit. E.*) Scarcely to be distinguished from *G. Campestris*, but by the calyx. LINN. Lower flowers often 4-cleft, especially in plants which have been bitten of and have shot up afresh, in which case also it often produces very minute double flowers, the segments curling in, so as to form a kind of button. WOODWARD. Blossoms blue.

Autumnal Gentian. Felwort. In dry pastures, mostly on calcareous soil. [Canham Heath, near Bury; Broughton Heath, Huntingdonshire; and Dunstable Hills. Mr. WOODWARD. About Gordale, below the waterfall. Mr. WOOD. Arthur's Seat, Edinburgh. Mr. BINGHAM.—Abundant on Lackhampton Hill, near Cheltenham. Rev. S. DICKENSON. E.)—River side opposite St. Vincent's Rocks, Bristol. A. Aug.—Sept.

Var. 2. Blossom 4-cleft.

Walc. named *G. campestris*.

Dunstable Hills. Mr. WOODWARD.

Var. 3. Early flowered. Ray *Syn.* 275.

Col. Ecphr. 221.

Near Kendal, on the back of Hells-fell-nab. Mr. Ray was misinformed of this being the Vernal Dwarf Gentian. Mr.

Fitz-Roberts told Mr. Wilson that the plants he had mentioned to Petiver were the Autumnal Gentian flowering earlier than usual.

Gentianella fugax verna, seu præcox.—*Gentianella purpurea minima.* April—June.

campestris. G. Blossom 4 or 5-cleft; mouth bearded; calyx segments, 2 of them larger.

E. bot. 237—*Fl. dan.* 367—*Barr.* 97. 2—*H. ox.* xii. 5, row 3. 9.

(Much resembles the *G. amarella*, but is generally of lower growth, and more branched; the calyx-leaves furnish the principal distinction; this plant having two decidedly larger than the others; in the former plant the segments of the calyx are all equal. E.)—*Calyx* two outer opposite segments flat, upright, twice as broad as those between them. *Stamens* 4. LINN. *Calyx-leaves* distinct, or merely adhering at the base; the two outer egg-spear-shaped; the inner spear-shaped, somewhat membranaceous, not more than one fourth the breadth of the outer. WOODWARD. Blossom blue.

Field Gentian. Mountainous pastures. About Kendal. WOODWARD.—Llanberys, Wales; and Perian Round, Cornwall. HUDSON.—[Boggy field adjoining to Horsforth Beck, four miles from Leeds, plentiful. And amongst the high rocks above the water-fall in Gordale. Mr. WOOD.—Sea coast, Cheshire. Stratton Heath, Norfolk. Mr. CROWE.]—(Common about Allerton Hall, near Liverpool. Dr. BOSTOCK. E.) A. Aug—Oct.

G. Centaurium, see *Chironia Centaurium*.

G. filiformis, see *Exacum filiforme*.

XAN'THIUM. Male and female flowers on the same plant.

Male. *Cal.* common, tiled: *bloss.* 1 petal, funnel-shaped, 5-cleft: *recept.* chaffy.

Fem. *Involver.* 2-leaved, 2-flowered: *bloss.* none: *caps.* double, prickly, cloven: *nut* 2-celled.

Struma'rium.

X. Stem thornless; leaves heart-shaped, 3-fibred.

Fl. dan 970—*Blackw.* 444—*Fuchs.* 579—*J. B.* iii. 572—*Trag.* 839—*Lonic.* i. 65. 1—*Ger.* 664. 2—*Matth.* 1204—*Dod.* 39. 1—*Lob. obs.* 319, *ic.* i. 588. 2—*Ger. em.* 809. 2—*Park.* 1223. 4—*Gars.* 642.

Male flowers in a branched bunch, terminating the stem and branches. *Female flowers* immediately beneath, in the bosoms of the upper leaves. Mr. WOODWARD.

Lesser Burdock. Burdock Clottweed. On dunghills and ground highly manured. A June—Sept.*

ERYNGIUM. Flowers forming a head: general *involucr.* many-leaved: *recept.* chaffy: *seeds* rough with flexible scales.

E. Root-leaves roundish, plaited, thorny; flowering heads *maritimum*. on fruit-stalks; chaff 3-pointed.

Dicks. h. s.—E. bot. 718—*Kniph.* 9—*Woodv.* 102—*Fl. dan.* 875—*Blackw.* 297. 1 and 11—*Matth.* 680—*Clus.* ii. 159. 2—*Dod.* 730. 1—*Lob. obs.* 490. 1—*Ger. em.* 1162. 1—*Pet.* 999. 1—*Park.* 986. 1—*H. ox.* vii. 36. 6—*J. B.* iii. a. 86. 2.

(*Plant of a glaucous appearance. Teeth of the cup erect, spinous. Fl. Brit. E.*) Root-leaves and lower stem-leaves 3-cleft, on fruit-stalks; upper embracing the stem. Leaf-stalks embracing the stem. Mr. WOODWARD. Leaves mealy on the surface, with a whitish wood-like border; angles ending in sharp whitish thorns. Blossom whitish blue.

Sea Eryngo. Sea Holly. Sea shore, common. [At Yarmouth. Mr. WOODWARD.—And on the sands at Hayle, Portawen, Portreath, and Penzance, Cornwall. Mr. WATT.—North-shore, Liverpool. Mr. CALEY.—(Plentiful on the shores of Kent and Sussex. About Abergele, North Wales. E.)

P. July—Aug.†

E. Root-leaves embracing the stem, winged, spear-shaped. *campestre*.

Jacq. austr. 155—*Fuchs.* 296—*J. B.* iii. a. 85—*Matth.* 679—*Fl. dan.* 554—*Blackw.* 297. 2—*Ger.* 999. 2—*Clus.* ii. 157. 2—*Dod.* 730. 2—*Lob. obs.* 490. 2—*Ger. em.* 1162. 2—*Park.* 986. 2—*H. ox.* vii. 36. row 2. n. 1. f. 2—*Trag.* 871.

(This plant is more branched, more slender, and somewhat greener than the former species. E.) Root and lower stem-leaves on leaf-stalks, doubly and trebly divided into winged clefts. Leaf-stalks long, sheathing the stem at the base. Mr. Wood-

* The leaves are bitter and astringent.—A decoction of the whole plant affords a showy yellow colour; but it is better if only the flowers are used. Horses and goats eat it. Cows, sheep, and swine refuse it.

† The leaves are sweetish, with a light aromatic warmth and pungency. The roots are supposed to have the same aphrodisiac virtues as the *Orchis* tribe. They are kept in the shops candied.

WARD.—(Schousboe also observes that the Linnæan specific character of this plant is erroneous, referring only to the stalk-leaves; the root-leaves are ternate, and when the stalk is completely developed, the root-leaves and the lower stalk-leaves are mostly fallen off, or at least less perceptible. **ROTH. E.**) *Petals* blue, sometimes white, or yellowish.

*Field Eryngo. Common Eryngo. Eryngium. Blackw. a Trew n. 297 St. Watling-street Road, opposite Brockhall, near Daventry. On a rock by the road leading down to the ferry from Plymouth into Cornwall. On the shore called Friar Goose, near Newcastle-upon-Tyne. Ray Syn. 222. [About Sunderland Ballast Hills and Newcastle. Mr. ROBSON.]—(Below Melling, in Yorkshire, plentifully. BLACKSTONE. E.) P. July—Aug.**

HYDROCO'YLE. *Umbel* simple, on a foot-stalk: *involucr.* of 2 or 4 leaves: *petals* entire: *fruit* compressed, bulging, divisible into two parts.

vulga'ris. **H.** Leaves target-shaped, notched; umbels 5-flowered.

E. bot. 751—*Fl. dan.* 90—*Dod.* 133. 1—*Lob. obs.* 209. 4—*Ger. em.* 529. 5—*Ger.* 424. 3—*Park.* 1214—*Pet.* 6. 12.

Stems creeping and striking root. *Leaves* circular, smooth. *Leaf-stalks* smooth, cylindrical. *Fruit-stalks* from the base of the leaf-stalks. *Umbels* two on a fruit-stalk, one springing out of the other, each containing from four to six flowers. *Flowers* reddish white.

Marsh Pennywort. White Rot. Marshy grounds. P. June.

The farmers suppose it occasions the rot in sheep. (See *Pin-guicula vulgaris.*)

SANI'CULA. *Umbellules* crowded, forming a kind of head: *florets* of the centre barren: *fruit* set with hooked prickles.

europe'a. **S.** Root-leaves simple; florets all sitting.

Fl. dan. 283—*Blackw.* 63—*E. bot.* 98—*Walc.—Fuchs.* 671—*Trag.* 509—*Riv. pent.* 31. *Sanicula—Dod.* 140. 1—*Ger. em.* 948—*Ger.* 801—*Col. phytob.* 16—*H. ox. v.* 34, row. 3. 1—*Lob. obs.* 378. 2—*Park.* 532. 1—*Matth.* 1019.

* (This plant dried and powdered forms a principal ingredient of a remedy celebrated in Spain for the cure of the bites of vipers and mad dogs, particulars of which may be seen in the *Month. Mag.* vol. 29. p. 414. E.)

(The petals of the female florets deciduous. Mr. Wood, in *Fl. Brit. E.*) A foot or half a yard high. *Root-leaves* 5-lobed, segments jagged, paler green and shining underneath. The central barren florets have no style, but in its place a concave glandular nectary filled with honey, similar to what crowns the germen in the fruit-bearing florets. *Blossom* white.

Common Sanicle. Wood Sanicle, Woods and thickets.

P. May—June,

BUPLEU'RUM. *Partial involucri.* largest of 5 leaves: *petals* rolled inwards: *fruit* egg-shaped, bulging, small, not crowned.

B. General involucrium none; leaves perforated by the stem, rotundifolium.

Dicks. h. s.—E. bot. 99—*Kniph.* 7—*Riv. pent.* 46. *Perfoliata*—*Ger.* 430. 1—*Matth.* 1156—*Fuchs.* 632—*Trag.* 482—*Blackw.* 95—*H. or.* ix. 12. 1—*Dod.* 104. 1—*Ger. em.* 536. 1—*Park.* 580. 1—*J. B.* iii. 6. 198. 1.

From a foot to half a yard high. *Leaves* oval, smooth, bluish green, (alternate, sharp-pointed, fibred. *E.*)—*Flowers* yellowish, on short fruit-stalks.

Common Thoroughwax. Corn fields. In a calcareous soil. [Marham, Norfolk. Mr. CROWE.—Carlby, between Stamford and Bourn. Mr. WOODWARD.—Near Amesbury, on Salisbury Plains, plentiful.]—(Near the rocks at Uckfield, Sussex, by the foot path to Pilt Down. Mr. BORRER in *Bot. Guide.*—In every ploughing field near Copgrove, Yorkshire. Rev. J. DALTON. *E.*)

A. June—July,

B. General involucrium of 3 leaves; umbels simple, alter-tenuis'sinate, of few flowers; leaves strap-spear-shaped; stem mum, prostrate.

E. bot. 478—*Fl. dan.* 1090—*Col. ecphr.* 247. 2—*J. B.* 6. 201. 2—*H. or.* ix. 12, row 3. 4.

(A stiff, acrid plant, smooth, branched from the bottom. *Branches* upright, spreading, gently winding, undivided, leafy. *Leaves* alternate, spear-shaped, narrow, sharp-pointed, widening at the base. *Fruit* angular. *Fl. Brit. E.*)—*Flowers* yellowish.

Least Thoroughwax. Slender Thoroughwax. Hare's Ear. Meadows and pastures. [Salt ditches, near Lynn Regis. Dr. SMITH.—Maldon, Essex. Boggy ground at the western end of St. Vincent's Rocks, near Cook's Folly. Dr. BROUGHTON.—Salt water ditches, Wisbeach. Rev. R. RELHAN.—Banks of the Tees, near Stockton, Mr. ROBSON.]

A. July—Aug.

TORDYLIUM. *Bloss.* radiated, all the florets hermaphrodite; *involucr.* long, undivided; *seeds* round, compressed, flat, with a thick border.

maximum. T. Umbels crowded, radiated; leaflets spear-shaped, cut-serrated.

Jacq. austr. 142—*Riv. pent.* 1. *Tordylium*—*E. bot.* 1173—*Clus.* ii. 201. 1—*Ger. em.* 1021. 4—*Lob. ic.* i. 737.

Stem scored, rough with bristly reflected hairs. *Leaflets* 7, cut, pubescent, the odd one twice the size of the others. *Fruit-stalk* stiff, straight, much longer than the leaves. *Umbels* few, rigid, rough. *Umbellules* about 9. *Involucrum* 5-leaved, slender, expanding shorter than the umbel. *Involucellums* 5-leaved, awl-shaped, as long as the umbellule, the two inner leaflets smaller. *Blossom* radiate, white, red underneath. *Florets* all fertile. *Seeds* circular, flattened, hispid; the border thicker, prickly, red. LINN. Ray suspects that neither this nor the next species are properly natives, and that they are only found as the outcasts of gardens.

Great Hart-wort. Banks of fields. Under the hedge on the north side of the Parks. *Fl. Ox.* Found by Mr. Doody about Thistlewort. RAY.—[Shewn me growing near Oxford by Mr. Newberry, but not on the road to Heddington. Mr. WOODWARD.] —(Hedges near Etonwick, in the greatest abundance. Mr. GOTOBED. E.) A. June.

officinale. T. Partial involucrum as long as the flowers; leaflets egg-spear-shaped.

Jacq. hort. 53—*Dod.* 314—*Lob. obs.* 425. 1—*Ger. em.* 1050. 1—*J. B.* iii. b. 4. 2—*Park.* 906. 8—*Ger.* 894.

(*Stem* furrowed, covered with short, soft hairs. *Leaves* hairy and rough. *Leaflets* oblong, sharply serrated and cut. *Flowers* flesh-coloured, the outer petals very large, radiating. *Fl. Brit. E.*)—*Stem* nearly smooth. *Lower leaves* with two pair of little leaves. *Little leaves* hairy, on leaf-stalks, the odd one at the end with three lobes; those of the upper leaves spear, or strap-spear-shaped, deeply serrated. *Florets* tinged with purple. *Seeds* large, flat, with broad, raised, notched edges; which last circumstance required that it should be kept distinct from the other English species. These Mr. Hudson has accordingly very properly removed to the genus *Caucalis*. WOODWARD. The *T. maximum* and *officinale* are readily to be distinguished by observing, that in the former the terminating leaflet of the stem

leaves is strap-spear-shaped, in the latter short and rather wedge-shaped; and further, that the partial involucrum in the former are longer, in the latter shorter than the florets.

Small Hart-wort. Tordylium apulum. Jacq.—(Dr. Smith says that his plant is not the *Tordylium apulum* of Jacquin, and yet it seems to agree in most respects with the plant here described by the author as such. E.)—Cornfields. On the banks of the road to Heddington, about half a mile from Oxford. SHERARD in R. *Syn.*—(There is much reason to suspect that the plant growing near Oxford is *T. maximum*. That shewn to Mr. WOODWARD was certainly so. E.) A. June.

T. Anthriscus, see *Caucalis Anthriscus*.

T. nodosum, see *Caucalis nodosa*.

CAUCALIS. *Bloss.* radiated: florets of the centre male: *involucr.* leaflets entire: *petals* bent inwards, notched at the end: *seeds* covered with prickles or bristles.

C. Involucellums extending half way round, strap-shaped; seeds egg-oblong; angles on the back 4, distant, rough with bristles; leaves smooth, hairy on the ribs and at the base.

Jacq. austr. 157—*Riv. pent.* 24, *Echinophora*—*E. bot.* 197—*H. or.* ix. 14. 6—*Pet.* 27. 8—*J. B.* iii. 80. 1—*Park.* 920. 6.

Umbel cloven into 3 or 5. *Umbellules* sitting, generally 3. *Involucrum* none. *Involucellum* of three leaves, *Florets* equal, not radiated, reddish, most of them barren. *Seed-prickles* hooked, at some distance from each other, smooth. LINN. *Leaves* more than doubly compound, extremely elegant, finely divided. *Involucellum* of mostly five leaves. Mr. WOODWARD. *Florets* pink coloured. *Seeds* rarely more than three or four in each umbellule attaining perfection. *C. daucoides* Sp. pl. ed. ii. appears to be a variety of *C. grandiflora*. ST. *C. leptophylla*. Huds. ed. 1; not *C. leptophylla* of Linn.

Fine-leaved Bastard Parsley. Small Hens'-foot. Calcareous corn fields and barren spots. [Marham, Norfolk. Mr. CROWE. —Carlby, between Stamford and Bourn. Mr. WOODWARD. —Thorpe-arch, Yorkshire. Mr. AIKIN.] A. May—June.

latifo'lia.

C. Seeds egg-shaped, ribs on the back several, elevated, prickly; leaves simply winged, serrated.

Jacq. hort 128—*E. bot.* 198—*Col. ecphr.* 97—*Mill.* 85—*Garid.* 22, at p. 146—*H. or.* ix. 14. row 1, middle figure.—*J. B.* iii. b. 80. 2—*Pet.* 27. 6—*Park.* 920, the two uppermost of the smaller figures at n. 6. 7.

Whole plant rough with flat prickles. Little leaves spear-shaped. Umbels with three and four spokes. Umbellules sitting. Involucrum egg-shaped, skinny, as long as the spokes; the general one from three to five leaves; the partial of five. Florets equal, white; many of them barren. Fruit five in each umbellule, rough with prickles. Prickles very rough with minute reflected prickles. Linn. Blossom tinged with purple; outer petal larger than the rest. WOODWARD.

Broad-leaved Hens'-foot. Corn fields. Crooks Edston, Hampshire. HUDSON. [Between Cambridge and Gogmagog Hills. Mr. WOODWARD.]—(In corn fields at Oakley, and Thurleigh, Bedfordshire. ABBOT. E.) A. July.

arven'sis.

C. Involucrum of one leaf, or none: seeds egg-shaped; styles reflected; leaves doubly compound, terminating leaflet strap-spear-shaped; stem much branched. *Ait. H. Kew.*

Jacq. hort. iii. 16—*E. bot.* 1314—*Riv. pent.* 33. *C. humilis.*

Involucrum one leaf. Umbellules crowded. Seeds roundish-egg-shaped. Little leaves egg-spear-shaped, with winged clefts. HUDSON. Stem about a foot, and seldom, if ever, more than a cubit high; knots more frequent than in *C. anthriscus*; and less hairy towards the root. Blossom white, with a cast of yellow. Never found in hedges, and mostly in corn fields. RAY. Branches numerous, alternate, very much straddling. Seeds rough with strong hair. WOODWARD.

Corn Hens'-foot. Spreading Hedge Parsley. *C. helvetica*, JACQ. and GMELIN. *C. infesta*. Fl. Brit. CURT. Corn fields in chalky or marly soil. A. July—Aug.

Anthriscus. C. Seeds oval, rough on the back, with scattered prickles. Linn.—Involucrum many-leaved; seeds egg-shaped; styles reflected; leaves doubly compound; the terminating leaflet strap-spear-shaped. *Ait. H. Kew.*

Fl. dan. 919—*E. bot.* 987—*Jacq. austr.* 261—*Kniph.* 10—*Col. ecphr.* 112—*C. B. pr.* 80—*Ger. em.* 1022. 5—*Park.* 921. 9—*Pet.* 27. 9—*J. B.* iii. b. 83. 1—*H. or.* ix. 14. 8.

Umbellules crowded. *Seeds* oblong. *Leaflets* egg-shaped, wing-cleft. *Branches* upright. HUDSON. *Leaves* hairy, with about two pair of leaflets; the terminating leaflet very long. *Involucrum* leaves strap-shaped, from five to eight, not half the length of the umbel. *Umbel* spokes eight to ten. *Involucellum* leaves spear-shaped, surrounding, and of the length of the umbellule. *Florets* all fertile.

Hedge Parsley, or Hens'-foot. *Tordylium Anthriscus*. LINN. which see. Hedges. (A. Fl. Brit.) B. Aug.*

C. Umbels lateral, simple, mostly sitting; seeds egg-nodosa-shaped, outer ones set with bristles, inner ones rough.

Jacq. austr. app. 24—*E. bot.* 199—*Ger. em.* 1022. 6—*H. ox.* ix. 14. 10—*Pet.* 27. 11—*J. B.* iii. b. 83. 2.

Leaves finely divided, with a slight hairiness on each side. *Umbels* opposite to the leaves. Roughness on the inner seed, resembling shagreen. WOODWARD. In a specimen from Montpellier all the seeds rough with bristles. STOKES. *Plant* from six to twelve inches high. *Bristles of the seeds* barbed, ending in a claw.

Knotted Hens'-foot. Knotted Stone Parsley. *Tordylium nodosum*. Sp. pl. Borders of corn fields. [Ditches in Somersetshire.] A. June.

DAUCUS *Bloss.* somewhat radiated, (generally) all the florets hermaphrodite: leaflets of the involucrum divided: seeds with membranaceous toothed ridges.

D. Angles of the seeds 4, distant, hispid; leaf-stalks Carota-fibrous underneath; umbel concave when in seed.

Kniph. 5—*Ludw.* 9—*Fl. dan.* 723—*Blackw.* 546—*E. bot.* 1174—*Woodv.* 161—*Riv. pent.* 28, *Staphylinus*—*Ger.* 873—*Matth.* 748—*Dod.* 679—*Lob. obs.* 416. 2—*Ger. em.* 1028—*Park.* 902. 1—*Fuchs.* 684—*J. B.* iii. b. 62—*H. ox.* ix. 13. 2—*Trag.* 440.

Var. 2. Leaves of a dark glossy green, hairy, large, segments deeply cloven. Flowers all white.

* Horses are extremely fond of it.

PENTANDRIA. DIGYNIA. *Daucus*.

Sea Shore near Dover. R. Syn. 218. n. 3. [Devon and Cornwall.]

Var. 3. Leaves light green, hairy, segments slightly cloven. Flowers white, except the central floret which is deep crimson.

Hedge sides and fallow fields. July.

Var. 5. Umbel proliferous.

Jacq. hort. iii. 78.

Flowers white, with an umbellule of crimson florets standing up in the middle of the umbel. Sent from Cornwall by Miss GIDDY.

Daucus polygamus. Gouan. Shady places. Aug.

In all these varieties the root is pale yellow, the stem from 2 to 2½ feet high; the segments of the leaves are pointed; the umbels are at first flat, or gently convex, but when in seed concave like a tea cup. The involucre composed of about thirteen leaflets with deeply winged clefts; the involucellums of eight or nine leaflets, three of which are wing-cleft, the rest entire. The spokes of the umbel about 40, those of the Umbellules about 30. The seeds have 4 longitudinal deeply toothed ridges, like the comb of a cock, with 3 other imperfect ridges between them; the teeth flat, tapering to a point, but not prickly.

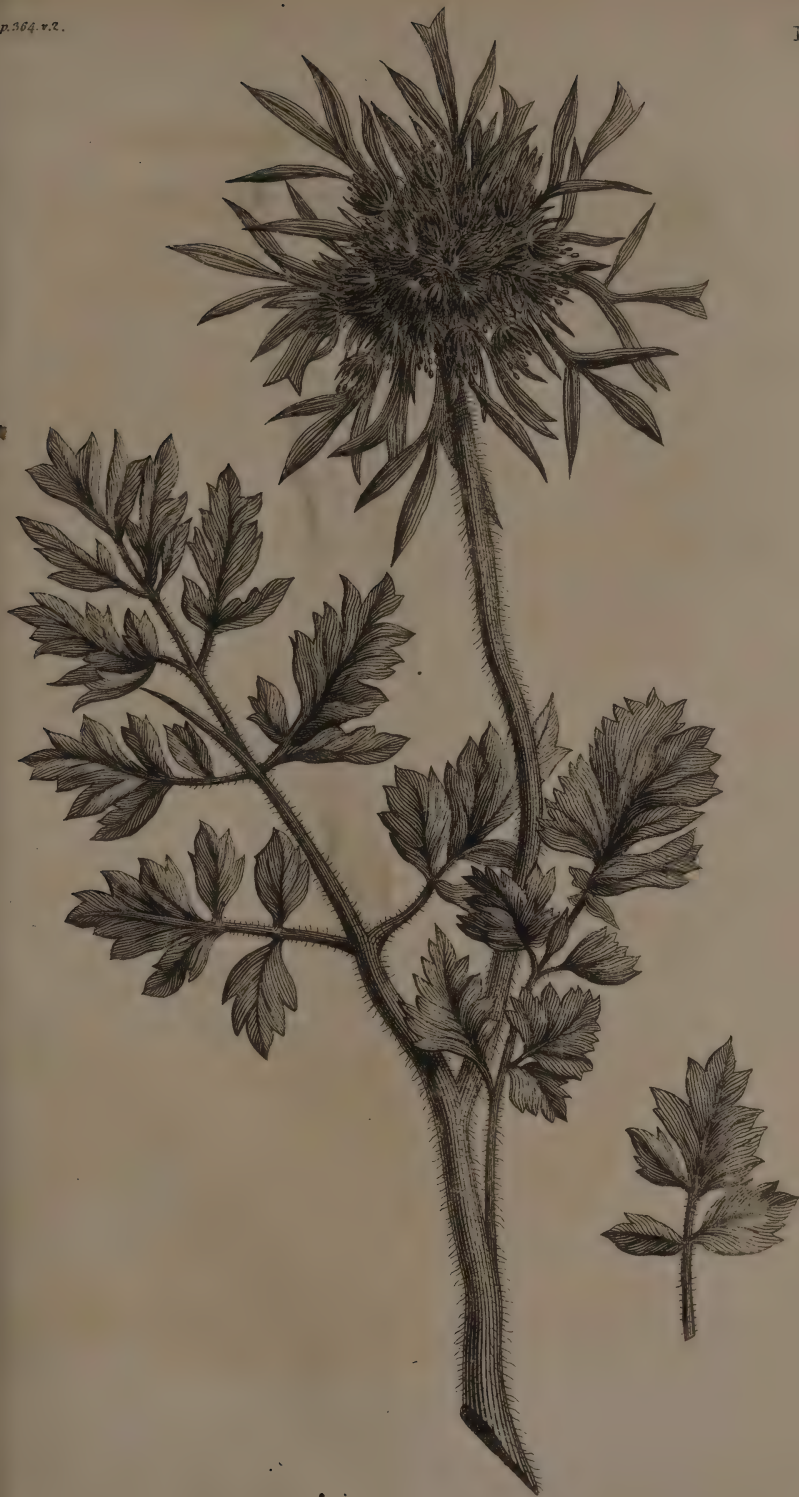
Birds'-nest. Wild Carrot.

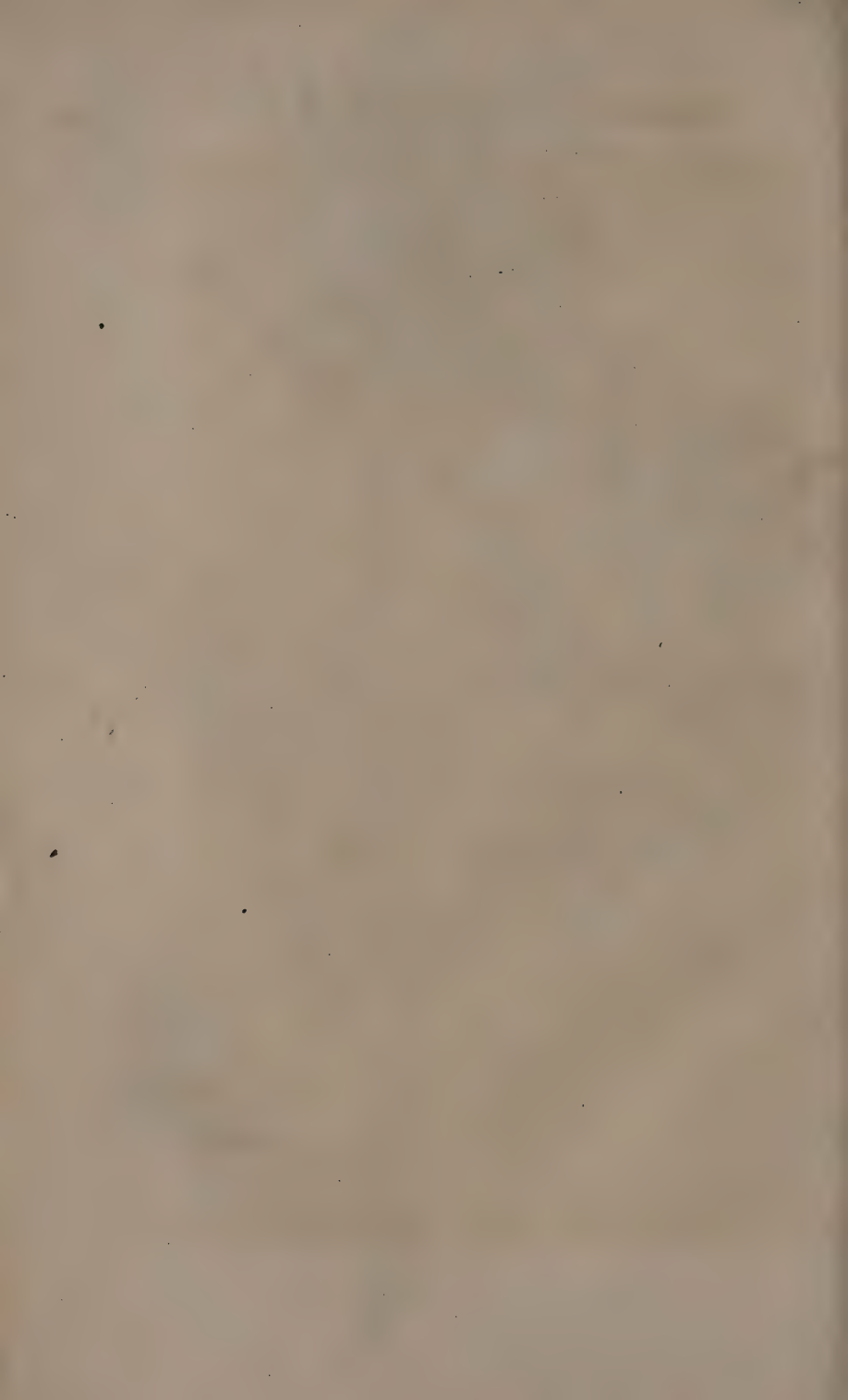
B. June—Aug.*

maritimus. D. Angles of the seeds 4 large and 3 small; umbels convex when in seed.

PL. XXXIII.

* The wild Carrot has always been marked by Botanists as a biennial plant; but, in our corn fields, and also when sown in a garden, it is an annual; hence some doubt may arise whether it be, as supposed, the parent stock of the cultivated or garden Carrot, which is always considered as a biennial, though I believe here and there a plant shoots up to seed the first year. The roots of the garden Carrot are white, or yellow, or deep red yellow. The seeds have been sometimes used as diuretics and carminatives; and are highly recommended in calculous complaints. An infusion of them has been found to afford relief in sharp fits of the gravel. Mr. WOODWARD.—Carrots are a grateful and nutritious food for all kinds of cattle, and well worthy of a more general cultivation for the purpose of the farmer. Carriage horses will work upon them nearly as well as upon oats, but if given beyond a certain period, the cattle are apt to make bloody urine.—Crickets are very fond of them, and are easily destroyed by making a paste of powdered arsenic, wheat meal, and scraped carrots, which must be placed near their habitations. A poultice made of the roots has been found to mitigate the pain, and abate the stench of foul and cancerous ulcers. (Dr. Carey in *Month Mag.* v. 27 adduces his own strongly marked case of the cure of the Gravel by the use of infusion of Wild Carrot Seeds, taken as tea morning and evening. His directions are very particular and satisfactory. E.)





Root a dirty white. *Stem* from one to two feet high, woolly and scored. *Leaves* hairy or rather woolly. *Leaflets* slightly cloven, broad, rounded at the end, succulent, curled. *Umbels* white, convex, not cupped when in seed. *Involucrum* nine wing-cleft leaflets, segments spear-shaped. *Involucellum* nine leaflets, six spear-shaped and three wing-cleft. *Seeds* with four large, broad, deeply toothed ridges, and three smaller intervening ones. These seeds resemble those of the *D. muricatus*, but the plant differs in other respects.

(Who shall decide when Doctors disagree! In the *Flora Britannica* we find this plant reduced to a var. of *D. Carota*, and our learned friend Mr. Woodward is ready to support this opinion, asserting that the hoary hairiness is a consequence of the sea-air, and that the umbels not cupping is owing to their small size. We, however, would observe that a hairy variety of *D. Carota* is found remote from the sea, and beg to adduce the testimony of that very accurate naturalist Mr. Dawson Turner, who in the *Bot. Guide*, p. 127, states, "I never saw on any part of the coast, excepting Cornwall, a plant approaching to *D. Maritimus*, of which the whole habit is distinct from the common species; and the leaves very unlike in form, as well as appearance and hairiness, besides other differences pointed out by Dr. Withering. Unless it suffer very material alteration from culture, which, I understand, it does not, it appears to me to have as clear a right to be considered a species as any other in our Flora." We suspect the first-named distinguished Botanist may never have seen the real *Cornish Coast Carrot*.

The better to illustrate this plant we here offer a sketch taken from a well-preserved specimen. The general habit, and precise shape of the leaves are accurately delineated. (E.)

Cornish Coast-carrot. (Dr. Withering first gathered this plant on the western coast of Cornwall, and by his request the Rev. J. T. Thomson paid particular attention to it, and from his observations the above description is chiefly supplied. (E.) Rocks on the S. W. coast. (About Penzance. At Tintagel Castle; the Lizard and elsewhere. Mr. E. FORSTER, jun. and Castle Trieryn. Mr. D. TURNER. E.) A. July—Aug.

BUNIUM. *Blossom* uniform: *umbel* crowded: *styles* bent back, deciduous: *seeds* rather cylindrical, scored, thicker towards the end.

B. *Involucrum* of many leaves: stem with leaves at the *Bulbocastanum* base rising from the root: *styles* deciduous.

PENTANDRIA. DIGYNIA. Conium.

Fl. dan. 220—*Barr.* 244—*Dod.* 334. 1—*Lob. obs.* 429. 2, *ic.* i. 745. 1—*Ger. em.* 1064. 2—*Bark.* 893—*Ger.* 906. 1—*H. or. ix.* 2. row 2. fig. 2d, n. 1—*Pet.* 25. 9—*J. B.* iii. 6. 30—*Ger.* 906. 2—*Matth.* 866.

(*Root* tuberous, roundish. *Leaves* triply-winged; segments strap-shaped, often three-cloven. *Umbels* terminating, upright, with many radiations. *Umbellules* crowded, white. *Fence* many-leaved, one third the length of the radii. *Fl. Brit. E.*)

Great Earth-nut. It is probable this has not been found in England; Ray and Johnson in *Ger. em.* speak of both species, which are well figured in the latter, but say they have only found one kind. (In Kensington Gardens. Mr. Wood. E.)

flexuosum. B. Involucrum from 1 to 3 leaves, deciduous; stem leafless at the base, tapering downwards, zig-zag; styles permanent.

Curt. 273—*E. bot.* 988—*Ger. em.* 1064. 1—*Tourn.* 161. 2.

Root tuberous. *Stem* smooth, scored, but little branched. *Leaves* doubly winged; segments very slender, and tapering to a point. *Involucrum* seldom of more than 1 or 2 slender leaves, but in most instances altogether wanting, and after examining above 50 plants growing in different soils both in woods and open pastures, I could never find more than one with any general fence after the blossoms were opened. *Involucellum* mostly shorter than the umbellule, of 3 or 4 very small spear-shaped leaves. *Umbel*, spokes 8 to 12. *Umbellule*, spokes about 16. *Styles*, at first close, afterwards straddling, but never bent back. *Flowers* white,

Earth, Kipper, Pig, Hawk, or Jur-nut. Earth Chesnut. Lesser Pig-nut. Bunium Bulbocastanum. *Curt.* Meadows, pastures, orchards, and woods. P. May—June.*

CO'NIUM. *Involucellum* going half way round, of about 3 leaves: *fruit* egg-shaped, bulging, ribs compressed, waved before the fruit is ripe.

macula'-tum. C. Seeds without prickles; stem greatly branched, smooth, spotted.

* The roots eaten either raw, boiled, or roasted, are very little inferior to Chesnuts, and would be an agreeable addition to our winter desserts.

Jacq. austr. 156—*Curt. i.* 7—*Woodv.* 22—*Riv. pent.* 75, *Cicuta—E. bot.* 1191—*Kniph.* 11—*Storck—Gent. Mag.* 1762. p. 273—*Clus. ii.* 200. 2—*Dod.* 461—*Lob. obs.* 422. 1; *ic. i.* 732. 1—*Ger. em.* 1061—*Park.* 933. 1—*H. ox. ix.* 6. row 3. 1—*Blackw.* 573. a. 6—*Fuchs.* 406—*J. B. iii.* 6. 175. 3—*Trag.* 474—*Matth.* 1098—*Ger.* 903. 1—*Blackw.* 451.

(*Leaves* compound, very much cut. *Root* fleshy. *Petals* heart-shaped. E.) *Stems* and *branches* shining, spotted and streaked with brownish or blackish purple. *Involucellum* of 1 leaf divided into 3 and 4; *segments* at the edges white and membranaceous. *Outer petals* the largest. *Flowers* white.

Common Hemlock. Kex. Hedges, orchards, rubbish, cultivated ground, and dunghills. B. June—July.*

SELINUM. *Involucr.* reflected: *petals* heart-shaped, equal: seeds small, with 5 membranaceous ridges, the lateral ones the largest.

S. Stem solitary; styles wide spreading after flowering; palustr. petals rolled inwards.

* The whole plant is poisonous, and many instances are recorded of its deleterious effects; but modern experience has proved it to be less virulent than was formerly imagined, and though it may not cure Cancers it is certainly a very useful medicine when properly prepared. In the first and second editions of this work, very particular directions were given for making the extract, but such is the uncertainty of it, owing to the difficulty of preparing it, that I have now for some years laid it aside, and prescribed only the powder of the dried leaves. Let the leaves be gathered about the end of June, when the plant is in flower. Pick off the little-leaves and throw away the leaf-stalks. Dry these selected little leaves in a hot sun, or on a tin dripping-pan or pewter dish before a fire. Preserve them in bags made of strong brown paper, or powder them, and keep the powder in glass phials, in a drawer, or something that will exclude the light, for the light soon dissipates the beautiful green colour, and with its colour the medicine loses its efficacy. From 15 to 25 grains of this powder may be taken twice or thrice a-day. I have found it particularly useful in chronic Rheumatisms, and also in many of those diseases which are usually supposed to arise from acrimony. The nature of this book does not allow of minute details of the virtues of plants, but I can assure the medical practitioner that this is well worth his attention.—Dr. Butter says, obstinate cases of gonorrhœa virulenta may be safely cured by doses of 10 grains of the inspissated juice; a mode of treatment communicated to him by Baron Storck.—(Mr. Whately, surgeon in London, bears ample testimony to the beneficial effects of the powder given in doses of only 4 or 5 grains twice a-day, for promoting a disposition to heal in obstinate ulcers on the legs; and its tendency to heal ulcerations of the lungs, after the inflammatory symptoms have been abated, must be generally allowed. E.)

PENTANDRIA. DIGYNIA. *Selinum*.

Jacq. austr. 152-*E. bot.* 229-*Riv. pent. t.* 20, *Thyssel. angustifol.*-*Fl. dan.* 412-*Dod.* 699-*Ger. em.* 1020-*Park.* 928 and 904. 6-*H. or. ix.* 17. 2-*Lob. obs.* 409. 1. *andic. i.* 711. 1-*C. B. pr.* 85.

Whole plant somewhat milky. Stem mostly single, hard, deeply scored. The terminating little-leaves elongated. Root hot in the mouth. LINN. The whole plant when wounded pouring forth a milky juice. Root thick, branching, yellowish without, white within. Stem 2 or three cubits high, deeply furrowed, smooth, as in the whole plant. Leaves of a pleasant green, triangular, in the more luxuriant plants upwards of one foot and a half long and as much or more in breadth; the uppermost sitting trebly and quadruply winged, the last leaf fits wing-cleft; wings with 2 or 3 clefts, varying from strap to oval-spear-shaped, very entire, reddish at the points. Umbel large, beautiful; spokes about 30. Umbellules, spokes upwards of 40. Involucrum permanent, leaves spear-shaped, about 9. Involucellum about 12. Seeds roundish, blunt, edged with a kind of border, scored in the centre. Petals blunt, with 2 slight lobes, white; before flowering reddish on the outside. WOODWARD.

Marsh Milkweed. Wild Parsley. Selinum sylvestre. *Jacq. austr.* [Found in 1779 or 1780 by Mr. Seattle, at Cannon Winder, near Flookburgh, Lancashire; in the ditches near the sand side not very plentiful; and I have since found it round the sides of Ayside Tarn, 3 miles north of Cartmel. Mr. HALL. Brought to me and Mr. Crowe, when in Lancashire in 1781, by the Rev. Mr. Jackson. Mr. WOODWARD.—In Alder Swamps, near Yarmouth. Mr. WIGG.—In great plenty in low wet moors with *Iris Pseudacorus*, near Whitley, Yorkshire, four miles from the confluence of the Ouse and Trent. Mr. WOOD.]—(On the banks of Whittlesea Mere, Huntingdonshire. Sir J. BANKS. *Bot. Guide.* E.)

P. June—July.*

ATHAMAN'TA. Petals bent inwards, notched at the end: fruit egg-oblong, scored.

Libano'tis. A. Leaves doubly winged, flat; umbels hemispherical; seeds hairy.

Jacq. austr. 392 and 392*-*Relh. at p.* 113-*E. bot.* 138-*J. B. iii. b.* 105-*Pluk.* 173. 1-*C. B. pr.* 77. 1.

Terminating umbels sometimes proliferous, with the spokes two inches long. RELHAN. The first pair of wings (in the lower leaves.

* (The larva of *Papilio Machaon* has been found on the plant by Sir J. Banks. E.)

St.) next the leaf-stalk placed crosswise. *Lower leaves* almost trebly winged, the wings being deeply wing-cleft. **WOODWARD.** *Flowers* white. *Germens* and *styles* purplish.—(*Root* woody and bitterish. *Stem* about two feet high, upright, little branched, smooth, angular, and furrowed, leafy. *Style* permanent. E.)

Mountain Spignel, or Stone Parsley. *A. Libanotis.* HUDS. ed. i. *A. Orcoselinum.* HUDS. ed. ii.—Chalk pit close, Hinton, Cambridgeshire. Rev. R. RELHAN.—Gogmagog Hills, Cambridgeshire. RAY. Keswick. Mr. HUTTON.

This species only has been discovered in Great Britain, which is the plant found by Ray on the Gogmagog Hills, and which Mr. Relhan first clearly ascertained to be *A. Libanotis*. **MR. WOODWARD.**

P. Aug—Sept:

PEUCED'ANUM. *Involucrum*s very short: *fruit* elliptical, slightly ridged, compressed and bordered.

P. Leaves 5 times divided into 3; thread-strap-shaped. officinale

Riv. pent. 11. *Peuced.* *E. Bot.* 1767—*Fuchs.* 599—*J. B.* iii. 6. 36. 1—*Dod.* 317—*Lob. obs.* 453, and *ic.* i. 781—*Ger. em.* 1054. 1—*Park.* 880. 2—*Ger.* 896. 1—*Trag.* 881.

(*Root* spindle-shaped, resinous, smelling like sulphur. *Stem* upright, cylindrical, scored, branched, leafy. *Umbels* large. *Calyx-teeth* sharp-pointed, bent inwards. *Petals* equal, incurved. *Styles* bent back. *Fl. Brit. E.*)—*Petals* yellowish.

Sea Sulphur-wort. Hog's Fennel. Salt marshes. Shoreham, Sussex. Walton, near Harwick, Essex; and near Feversham, by the river side. *R. Syn.*—About Yarmouth and Cley, Norfolk. HUDS.—(Never found at Yarmouth nor Cley. *Enanthe pimpinelloides* was mistaken for it. Mr. WOODWARD; and Mr. ROSE. E.)

P. June—July.*

P. Leaves winged; leaflets wing-cleft, segments strap-shaped, opposite; stem very much branched, spreading. HUDS. ed. I. LINN.

Pimpinella dioica, which see.

* The roots have a strong fetid smell, and an acrid, bitterish, unctuous taste. Wounded in the spring they yield a considerable quantity of yellow juice, which dries into a gummy resin and retains the strong scent of the root. Its virtues have not yet been ascertained with precision.

Silau's

P Leaflets wing-cleft; segments opposite; Involucrum of 2 leaves. LINN.

Jacq. austr. 15—*E. bot.* 2142—*Crantz. umb.* 6. and *austr.* iii. 6—*Riv. pent.* 58. *Seseli pret.*—*Ger.* 1047 1—*Park.* 904. 4—*J. B.* iii. 2. 171—*Ger.* 877—*Dod.* 310. 2—*Lob. obs.* 425. 4; and *ic.* i. 738. 1—*Ger. em.* 1048. 2—*Park.* 904. 3.

Lower-leaves treble compound; the *little-leaves* cloven into two or three spear-shaped, segments. *Involucrum* one or two little leaves. *Involucellum* twelve spear-shaped leaves, deep purple or black at the ends. *Umbel* of about seven *spokes*. *Umbel-lets* twelve to twenty, and upwards. All the *florets* generally fertile, but some of the central ones sometimes barren. *Petals* pointed, yellow. *Germen* crowned with a glandular yellow receptacle, turning to a deep red as the seeds ripen.

Meadow Saxifrage, or Sulphur-wort. Moistish meadows and pastures. P. July—Sept.

CRITHMUM. *Florets* equal: *fruit* oval compressed.

maritimum C. Leaflets spear-shaped, fleshy.

Jacq. hort. ii. 187—*E. bot.* 819—*Kniph.* 8—*Dod.* 705. 1—*Lob. obs.* 213. 2; and *ic.* i. 392. 2—*Ger. em.* 533. 1—*J. B.* iii. 2. 194—*H. or ix.* 7. row. 1. 1—*Lon.* 1. 257—*Matth.* 489—*Ger.* 427. 1.

(*Stems* about a foot long, not very upright, cylindrical, leafy but little branched. *Umbels* hemispherical, crowded, yellowish, *Petals* broad at the base. *Fruit* egg-oblong, rather spongy, smooth. *Fl. Brit. E.*)—*Leaflets* strap-spear-shaped. *Flowers* white.

Rock Samphire. Sea Samphire. Sea coast. [On the chalk cliffs near the Needles in the Isle of Wight. ST. On all the cliffs on the Cornish coast. MR. WATT. On the Rocks at Dunnerholme, and above Cartmel Wells, on the sea shore, growing out of the crevices of the rocks and difficult to be got at. MR. ATKINSON.] Fields about Port Gwylan, Caernarvonshire, covered with it. PENN. *Wales.* ii. 200. (On the cliffs of the South Foreland, and about Dover, rendered classical ground by the sublime description of Shakspeare. E.) P. Aug.*

* Poor people on the sea-coast eat it as a pot-herb, and gather it for sale, it being much used as a pickle.—Sheep and Cows eagerly feed, and are said to grow fat upon it. PENN. *ib.*

HERACLEUM. *Involucr.* shedding: *bloss.* irregular; *petals* bent inwards, notched at the end: *seeds* compressed, leaf-like, smooth, encompassed by a narrow membranaceous border.

H. Leaflets wing-cleft; flowers radiated.

Sphondylium.

Kniph. 11—*E. bot.* 939—*Blackw.* 540—*Riv. pent.* 4. *Sphondylium*.
H. or. ix. 16 row 1. 1. *f.* 2—*Dod.* 307—*Lob. obs.* 401. 2; *ic.*
i. 701. 2—*Ger. em.* 1009—*Park.* 953—*Pet.* 24. 1—*Park.* 954.
3—*Matth.* 791—*Fuchs.* 53—*J. B.* iii. 2. 160—*Trag.* 437.

Leaf-stalks spreading out at the base into a kind of bags, scored, membranaceous, woolly at the edges, and in its younger state sheathing and inclosing the fruit-stalks and umbels. *Stem-leaves* winged, hairy; *leaflets* about two pair, jagged, and indented, the odd one cloven into three. *Outer* florets radiated, *central* ones nearly equal. *Seeds* with three ridges on each side. *Flowers* white.

Cow Parsnep. Madnep. Hogweed. Hedges, meadows, pastures.
B. July.*

Var. 2. *narrow-leaved.* Little-leaves spear-shaped. *St.*

Jacq. austr. 174—*Pluk.* 63. 3—*Pet.* 24. 2—*Park.* 954. 2.

I have found the *root-leaves* of this and of *H. Sphondylium* rising from the same root. *Leaves* winged; *wings* with mostly three lobes; *lower-lobes* long, and standing nearly at right angles give the cross-like appearance; *lobes* strap-spear-shaped, deeply and doubly serrated. Mr. WOODWARD.—(A different plant from the *H. angustifolium* of Linn. SMITH. E.)

* In Poland and Lithuania, the poor people prepare a liquor from the leaves and seeds; which undergoes a fermentation, and is drank instead of ale.—The stalks when peeled, are eaten by the Kamtschatkans.—The Russians take the leaf-stalks of the root-leaves, peel them, and hang them in the sun to dry a little; then they tie them in little bundles, and hang them up again till they become yellow: in this state they put them into bags, and a mealy substance like sugar forms upon the surface of them. This they shake off, and treat their guests with it as a great delicacy. They likewise distil an ardent spirit from it. *Gmelin sibr.* i. p. 214. Attempts have been made to manufacture sugar from this plant which the Kamtschatkans call Ratsch (sweet-herb), but forty pounds of the dried stalks only yielded a quarter of a pound of the powder sugar. The peelings of the stalks are acrid.—The leaves are a favourite food of Rabbits, Hogs, and Asses. Cows, Goats, and Sheep eat them; Horses are not fond of them.—(Miller adduces several reasons to prove that the common Cow-Parsnep of Siberia, which the inhabitants make an article of food, is not our plant, but rather the *Spondylium maximum* of Breynius. PULTENEY. E.)

PENTANDRIA. DIGYNIA. *Ligusticum*.

Hedges. About Harefield. BLACKSTONE. [Between Okeover and Ashbourne. Sr. Berkhamstead, Hertfordshire. Mr. WOODWARD. In the woods and other places about Hayes, near Oswestry, as common as the first sort. Seeds gathered October 4, 1770, were sown January 2, 1771, and produced plants which flowered in 1772, and they or many of their progeny now occupy the same spot in January 1789. It seems to be more than a variety. Mr. WARING.] B. July,

LIGUSTICUM. *Bloss.* equal; *petals* rolled inwards, undivided: *fruit* egg-oblong, tapering at each end, 5 ridges on each seed.

Sco'ticum. L. Leaves doubly three-fold.

E. bot. 1207—*Pluk.* 96. 2—*Pet.* 26. 11—*Penn. tour.* ii. 24. at p. 205—*Herm. par.* 227—*Fl. dan.* 207.

(*Fruit* longer and more distinctly winged than in *L. cornubiense*. *E. bot.* E.)—*Leaves* glossy underneath. LINN. *Little-leaves* oblong-wedge-shaped, entire below, above irregular serrated, and sometimes deeply cut. Mr. WOODWARD.—(*Stem* upright, the upper part a little branched, cylindrical, scored, smooth, leafy. E.)

Scottish Lovage, or Sea Parsley. Rocks and cliffs by the seaside in Scotland and the Western Isles. Near Queen's Ferry. [Near Kinghorn, Scotland. Mr. WHATELY. At Weams castle, Fifeshire, and on the coast between Arbroath and the Red-head, Angus-shire. Mr. BROWN. Cramond Island, 6 miles from Edinburgh. Dr. HOPE.]—(Near Wick, in Caithness. Mr. M'C LEAY. E.) B. July.*

Cornubiense. L. Root leaves doubly compound, cut; stem leaves in threes, spear-shaped, entire; furrows of the seeds indistinct.

E bot. 683—*Smith. ic. pict. fasc.* ii.—*Ray* 8, at p. 209—*Pet.* 26. 9,

(*Stem* two or three feet high, upright, branched, cylindrical, scored, roughish, purplish, towards the bottom, but little leafy. *Flowers* white, regular, and uniform. *Petals* oblong, acute, turned inwards, channelled at the back. *Fruit* egg-oblong, scored on both sides, with ribs a little standing out. *Seeds* egg-shaped, black. *Fl. Brit.* E.)

* It is much valued in the Isle of Sky. The root is reckoned a carminative, and an infusion of the leaves a good purge for calves. It is besides used as food, either as a sallad, or boiled as greens. *Penn. tour.* 1772. p. 310. Horses, sheep, and goats eat it. Cows refuse it.

Cornwall Saxifrage. Cornish Lovage. Cornwall. B. July.

Ever since the time of Ray this plant seems to have been lost, or at least to have eluded the researches of our modern botanists, and for a long time only one specimen was known to exist; and some concluded that the species was extinct; but a few years ago, Mr. Pennington discovered it in great plenty in a field near Bodmin, which had then been ploughed, after having lain fallow from time immemorial. Being at Bodmin in June 1793, I applied to Mr. Gilbert, the proprietor of the land, who very obligingly sent a person to conduct me to the field in which Mr. Pennington had re-discovered the plant. This field is more than a mile north of Bodmin; the furze is again growing upon it, but not a single plant of the *Ligusticum* was to be found. Dr. Hall favoured me with his company on this occasion, and we searched the surrounding fields and hedge rows to no purpose. At length, in a field about half a mile further from Bodmin, on ground sloping into a valley facing to the west, and nearly at the bottom of the slope, we discovered a few plants amongst the furze. It therefore appears probable that it will soon be lost again, owing to cattle being so fond of it as to eat it down wherever they can get at it, for the few plants we found were so protected by thorns and briars as to be inaccessible to cattle. Mr. Stackhouse informs me that he has since found it plentifully at Hungerill, in the parish of Cardynham, near Bodmin, on the sloping side of a barren hill. I do not find (continues Mr. Stackhouse) the radical leaves in threes, as represented in Ray's Synopsis, but rather twice ternate, as expressed in Smith's *Icones pictæ*, fasc. ii. I think the circumstance of having leaves of two distinct shapes is not that the one are radical and the other not, for both arise from the crown of the root. The spindle-shaped root is constant and very distinctive. In Dr. Smith's figure, the left hand leaf in the plate admirably describes the difference of the radical leaf from the others, as it consists in the form of the lobes, and the smaller number of segments, not in a trifoliate-leaf as in Ray's figure. From the woody quality of the root I suspect it to be perennial.—(In a wheat field, and in an adjoining coppice called Marget, or Margaret Wood, about three furlongs from the Bodmin Turnpike, that leads to Launceston. Sir T. CULLUM, and in Draw-wood, Bradoc, Mr. E. FORSTER, junr. *Bot. Guide*. Hitherto this very local and rare plant has never been found in any other part of this Island than the neighbourhood of Bodmin. E.) P. July

ANGE'LICA. *Bloss.* equal, petals bent inwards :
styles reflected : *fruit* roundish.

Archangelica. A. Leaves winged; leaflets unequally serrated, the odd one at the end 3-lobed.

Fuchs. 124—*Trag.* 421—*Lob. ic.* 693. 2, and *obs.* 399—*Dod.* 318. 1—*Ger. em.* 999. 1—*Matth.* 814. 2—*Tabern.* 230. 1—*H. ox.* ix. 3, row 2. 1—*Ger.* 846. 1.

(Root thick, fleshy, resinous. Stem upright, five feet high, branched, hollow, cylindrical, smooth, furrowed. Umbels globular, many-spoked. Umbellules thick, hemispherical. Calyx extremely small. Petals egg-shaped, greenish white. Fruit compressed, sharply ribbed. *Fl. Brit. E.*) The serratures on the leaflets in the *A. sylvestris* are fine, regular, and the leaflets otherwise entire, but in this species the leaflets are broader and with more of a lopped appearance at the base, the serratures much larger, very irregular, and some of them cleft into 3 segments. In some specimens the Involucellums are much longer than the Umbellules.

(Near Bungay, and elsewhere in Norfolk and Suffolk. Mr. WOODWARD. E.)—[Broadmoore, about 7 miles N. W. from Birmingham.] P. Sept.

In a cultivated state this is supposed to be the *Garden Angelica* which is used in some distilled waters, and candied by the confectioners. It is figured in *Blackw.* 496, *Kniph.* 4, and *Trag.* 422; also very badly in *Fl. dan.* 206.

sylvestris. A. Leaflets equal, egg-spear-shaped, serrated.

E. bot. 1128—*Ludw.* 178. 179—*Fuchs.* 125—*Tabern.* 230. 2—*Trag.* 422—*Lob. ic.* 699. 1—*J. B.* iii. 2. 144—*Woodv.* 265—*Dod.* 318. 2—*Ger. em.* 999. 2—*Ger.* 846. 2—*Matth.* 814. 3—*H. ox.* ix. 3. row 2. 2—*Park.* 940. 2—*Lon.* i. 227. 2—*Riv.* 17.

Spokes to 40. Fruit-stalks to 80. RELHAN. Involucrum none, or sometimes, though rarely, of one or two very small, slender leaves. Involucellum permanent. Leaves 5 to 12, awl-shaped, unequal. Blossom white, more or less tinged with purplish red. Seeds, border membranaceous, with 3 ridges on the outer side. (Stem 4 feet high, cylindrical, smooth, leafy. E.)

Water Angelica. Wild Angelica. Marshy woods and hedges. P. June—July.*

* It is warm, acrid, bitter, and aromatic; but the species cultivated in our gardens possessing these properties in a higher degree, this has been long neglected. *Papilio machaon* feeds upon it. Cows, goats, and swine eat it. Horses refuse it. LINN. A horse eat the flowering stem. ST.

SIUM. *Involucrum* many-leaved: *petals* heart-shaped: *styles* bent back: *fruit* roundish.

S. Leaves winged; leaflets egg-spear-shaped, regularly and *latifolium*, sharply serrated; the terminating leaflets 3-cleft; umbels terminating.

Jacq. austr. 66—*E. bot.* 204—*Fl. dan.* 246—*Riv. pent.* 78. *Sium* —*Dod.* 589—*Lob. obs.* 113. 1; *ic. i.* 208. 1. 2—*Ger. em.* 256. 2—*H. ox.* ix. 5. 2—*Pet.* 26. 2—*Ger.* 200. 1—*Ger. em.* 256. 1—*Park.* 1240. 1—*J. B.* iii. 2. 175. 1—*Pet.* 26. 1.

Leaflets of the *root-leaves* in marshy places sometimes deeply cut, and the segments of such as are under water strap-shaped. HUDSON. *Involucrum*, leaflets strap-spear-shaped, toothed. WOODWARD. A large strong plant 5 or 6 feet high. *Flowers* whitish. (*Fruit* small, scored. E.)

Broad-leaved Skerrett. *Great Water Parsnep.* Rivers and fens. [Moors near Pitchcroft, Worcester, Dr. THOMSON. Norfolk, frequent. Mr. WOODWARD. Isle of Ely. St. Pool in Nottingham Park. Dr. ARNOLD.] P. July—Aug.*

S. Leaves winged, leaflets irregularly jagged and serrated; *angustifolium*, involucre wing-cleft; umbels on fruit-stalks, axillary.

Jacq. austr. 67—*E. bot.* 139—*Riv. pent.* 79, *Sium minus*—*Fl. dan.* 247—*Park.* 1241. 2.

Involucrum, leaflets either entire, or serrated, or else wing-cleft. HUDSON. (*Calyx* scarcely discernible. *Fruit* small. A less and weaker plant than the former. *Fl. Brit.* E.) *Flowers* white. This and the *S. latifolium* are readily distinguishable by the specific characters, but the trivial names of *broad* and *narrow-leaved* are ill appropriated because tending to mislead, for neither the leaves nor leaflets of the latter are narrower than those of the former, and if there is a difference it is generally the reverse of what the trivial names would lead us to expect.

Upright Water Parsnep. *Narrow-leaved Skerret.* Ditches and rivulets. [Norfolk, Mr. WOODWARD.—Kingston Pool, near Stafford.—King's Park, and meadows and ditches near Edinburgh. Mr. BROWN.] P. July—Sept.

It certainly possesses active properties which ought to be enquired into.

* Horses and swine eat it. Sheep are not fond of it. The roots are noxious to cattle.

nodiflorum. S. Leaves winged; leaflets tooth-serrated; umbels lateral* opposite the leaves, sitting on fruit-stalks.

E. bot. 639—*Woodv.* 182—*Tourn.* 162—*H. ox.* ix. 5. 3—*Pet.* 26. 3.

(*Fruit* egg-shaped. *Calyx* very indistinct. *E.*) *Stem* and branches generally trailing or floating on the water, and striking root at the joints. *Involucrum* deciduous. *Involucellum* of 5, 6 or 7 spear-shaped reflected leaves. *Flowers* white.

Procumbent Water Parsnep, or *Skerret*. In rivers and ditches, P. July—Aug.*

repens. S. Stem creeping, (with radicles; *E.*) leaflets roundish, toothed and angular.

E. bot. 1431—*Jacq. austr.* 260.

Smaller in all its parts than *S. nodiflorum*. *Leaflets*, the terminating one deeply divided into 3 lobes. *Dr. J. SIBTHORP.* *Umbels* on fruit-stalks, opposite the leaves. *Leaflets* roundish egg-shaped, unequally serrated, serratures bluntish, the lower edge also generally deeply cut in one place. *Dr. STOKES.*

Creeping Water Parsnep. [Found by *Dr. J. SIBTHORP* in moist ground called Cowley Bottom, near Oxford.—On the bank of a pond at Fisher-row, 5 miles from Edinburgh, and in abundance on the moist parts of Guillon Links, East Lothian. *Dr. HOPE.*]—(Goldington Green, and Stevington Bogs, Bedfordshire. *ABBOT.*—Sides of ditches on Datchet Common, Bucks. *Mr. GOTOBED*, in *Bot. Guide.*—Coldham Common, Cambridgeshire. *RELHAN.*—On Hatfield Forest, and in the road from Heybridge to Maldon. *Mr. E. FORSTER, jun.*—In Tothill Fields, Middlesex, *ditto.*—Ditches about Beverley. *TEESDALE, E.*)

P. June—July.

SISON. *Involucrum* about 4 leaves: *fruit* egg-shaped, scored: *styles* bent back.

Amo'mum. S. Leaves winged; umbels upright.

Jacq. hort. iii. 17—*E. bot.* 954—*Blackw.* 442—*J. B.* iii. 2, 107—*Fuchs.* 655—*Trag.* 461—*Dod.* 697. 1—*Ger. cm.* 1016. 1—*Park.* 914. 1—*H. ox.* ix. 5. 7.

* A young lady 6 years old was cured of an obstinate cutaneous disease, by taking 3 large spoonfuls of the juice twice a day; and I have repeatedly given to adults 3 or 4 ounces every morning in similar complaints, with the greatest advantage. It is not nauseous, and children take it readily if mixed with milk. In the doses I have given it, it neither affects the head, the stomach, nor the bowels.

Stem cylindrical, upright, scored, smooth. *Leaves* winged. *Leaflets* egg-shaped, cut, serrated, but the uppermost more finely divided. *Umbel* of 4 spokes, the fourth in the centre. *Involucrum* of 3 leaves. *Involucellum* of 5 leaves, very small. LINN. *Root-leaves* of several pairs of *little-leaves*, the terminating one cloven into 3. *Stem-leaves* from 2 to 3 pairs; *upper* leaves of 2 pairs, deeply and irregularly cut, the lowermost pair winged, and much longer. *Umbels* nodding before flowering. WOODWARD. *Little-leaves* with generally a lobe-like gash on each side below. *Umbels* mostly terminating. *Flowers* white. (*Herb* strong and nauseous to the smell. *Seeds* aromatic and pungent. E.)

Bastard Stone Parsley. Hedge Stonewort, or Honewort.
Moist woods and hedges. P. Aug.—Sept.—(A. Fl. Brit.)

S. Leaves winged; umbels nodding.

se'getum.

Jacq. hort. 134—E. bot. 228—Ger. em. 1018—Park. 932—H. ox. ix. 5. row 2. 6.

(*Stem* rather upright, branched, cylindrical, scored, rush-like, leafy, *Calyx* 5-toothed. *Fruit* egg-oblong, ribbed, aromatic. E.) *All the leaves* with numerous pairs of *little-leaves*. *Umbel* spokes 3 to 5, very unequal. *Umbellules*, spokes 6 or 7, very unequal. WOODWARD. *Little-leaves* egg-shaped, deeply cut and serrated; serratures very finely pointed. STOKES. *Petals* very minute, white. *Anthers* reddish.

Corn Parsley, or Stonewort. Corn Honewort. Cornfields and hedge sides in chalk and clay. [Binham, Norfolk. Mr. CROWE.] B. Linn.—A. Huds.—July.

S. Creeping; leaves under water hair-like, those above inunda'tum. winged; umbels of 2 spokes.

Dicks. h. s.—E. bot. 227—Fl. dan. 89—H. ox. ix. 5. 5—Pet. 26. 4—Pluk. 61. 3.

The smallest of the umbelliferous plants that I am acquainted with. LINN. *Involucrum* none. *Umbellule* sometimes sitting. WOODWARD. *Flowers* white.

Least Water Parsnep. Water Stonewort. Hydrocotyle inundata. Fl. Brit. In ditches, pools, and ground subject to be overflowed. [Esthwaite Lake and Rusland-Moss in Furness Fells. Mr. JACKSON.—Salesmore, near Manchester. Mr. ROBSON.—Near Bungay, Suffolk. Mr. WOODWARD.—Sides of rivulets on Malvern Chace, Worcestershire. Mr. BALLARD.—Marazion Marsh, Cornwall.]—(Occasionally about Liverpool. Dr. BOSTOCK. E. B. June.

verticilla'tum. S. Leaflets in whirls, hair-like.

E. bot. 395—*Lightf.* 35. *at. p.* 1096—*Moris. umb. t.* 6—*H. or.* ix. 7. 10.

Leaves, each of the *whirls* consists of two opposite little-leaves, deeply divided into hair-like segments. *Umbels*, rays 8 to 10. *LIGHTFOOT*. (*Stem* a foot and a half long, upright, little branched, cylindrical, scored, smooth, nearly naked. *Leaves* mostly from the root, winged, with many pairs of leaflets. *Calyx* indistinct. *Petals* white, heart-shaped, bent-inwards, nearly equal. E.)

(Dr. Smith thinks this plant ought rather to be arranged under the genus *Sium*. E.)

Whirled Honewort. Meadows and pastures. On the Western side of Wales, and in Scotland. P. Aug.

CENANTHE. *Florets* of different shapes, those in the centres sitting, barren: *fruit* with a cork-like coat, oblong, scored; crowned by the styles and the calyx, which are permanent.

fistulo'sa. O. Sending forth suckers: stem-leaves winged, thread-shaped, hollow.

E. bot. 363—*Kniph.* 5—*Riv. pent.* 36. *Cœnanthe-Fl. dan.* 846—*Lob. ic. i.* 73. 1. 2—*Ger. em.* 1060—*Park.* 1233. 1—*Pet.* 25. 5—*J. B. iii.* 2. 192—*Ger.* 902. 5.

From 12 to 18 inches high. *Involucrum* sometimes none, sometimes of one, and sometimes of five leaves. *Umbel* spokes from 2 to 7. The first umbel is cloven into 3 parts; the succeeding ones into many; so that the plant changes its appearance considerably in the course of the summer. *Petals* white.

Water Dropwort. Ponds and ditches, frequent. [Marsh at Fresh-water Gate, in the Isle of Wight, May, June.]

P. July—Aug.*

crocata. O. All the leaves many-cleft, blunt, nearly equal.

Phil. trans. abr. x. 23, *at p.* 772—*Blackw.* 575—*Gent. Mag.* 1747. xvii. *at p.* 322—*Jacq. hort.* iii. 55—*Woodv.* 267—*Pet.* 25. 7—*H. or.* ix. 7, *row* 2. 2—*Lob. adv.* 326. 2—*ic. i.* 730. 2—*Ger. em.* 1059. 4—*Park.* 894. 6—*J. B. iii.* 2. 193. 2.

* Cows and horses refuse it, though from experiments made on purpose, it does not appear to be in the least degree noxious to the former.

Leaves, some winged; but more doubly winged. The *little leaves* wedge-shaped, smooth, streaked, jagged. *Petals* white, acute, bent inwards. *Involucrum* wanting. LINN. It has an involucre of five strap-shaped leaflets, about half the length of the shorter spokes, but it very readily falls off. Mr. GOUGH. *Stem* and *leaves* quite hairless. *Umbellules* nearly globular. *General blossom* not very unequal.

Dead Tongue. Hemlock Dropwort. Watery places, banks of rivers and ditches. [Meadows, near Hanley Hall, Worcestershire. Mr. BALLARD.—Between Bishop's Auckland and Wolsingham, and near Stockton. Mr. ROBSON.—Bent Eogs, near Manchester race ground. Mr. CALEY.]—(Occasionally about Liverpool. Dr. BOSTOCK. E.) P. June—July.*

O. Leaflets of the root-leaves wedge-shaped, cloven; those of the stem entire, strap-shaped, very long, undivided. pimpinelloïdes.

Jacq. austr. 394—*E. bot.* 347—*Matth.* 867—*Ger.* 901—*Kniph.* 8—*H. or.* ix. 7. 3—*J. B.* iii. 2. 191. 1—*Pet.* ii. 25. 8.

Stem angular, 6 inches high. *Root-leaves* like those of parsley, but thicker, doubly winged, broad. *Leaflets* cut. *Stem-leaves* less compound, scarcely doubly winged; *leaflets* strap-shaped, channelled, very long. *Umbels* unequal. *Involucrum* general and partial, all bristle-shaped. *Blossom* white, somewhat radiated. LINN. Outer rays very long, and the florets barren. WOODWARD. *Calyx* teeth unequal. *Styles* upright.

Parsley Dropwort. Slow streams, ponds, and ditches. Marshes, near Yarmouth. Mr. WOODWARD.—North side of Bredon Hill, Worcestershire. NASH.—(Occasionally in ponds about Liverpool. Mr. SHEPHERD.—The stations of Yarmouth, Cley, Shoreham, &c. named by Ray for *Peucedanum officinale*, are now generally allowed to belong to this plant. This rare plant was first ascertained to be common about Cambridge and

* The whole of this plant is poisonous; and Dr. Pulteney remarks, that the root is the most virulent of all the vegetable poisons that Great Britain produces. Many instances of its fatal effects are recorded; for which see *Phil. Trans.* ib. and vol. i. p. 856; *Cent. Mag.* July 1747, March 1753, and Sept. 1758. An infusion of the leaves, or 3 tea spoonfuls of the juice of the root taken every morning, effected a cure in a very obstinate cutaneous disease; but not without occasioning very great disturbances in the constitution. *Phil. Trans.* lxi. p. 469. Mr. Gough informs me, that the country people in Westmoreland apply a poultice of the herb to the ulcer which forms in the fore part of the cleft of the hoof in horned cattle, and is called the foal.—Sheep eat it. Cows and horses refuse it. (Four spoonfuls of the juice of this root is recorded by Mr. Watson, in 1758, to have occasioned the death of a person at Havant, in Hampshire. Dr. Pulteney remarks that in this instance, as in some others which have fallen under his own observation, all the sufferers were affected with the locked jaw, *Pulteney v. 2. p. 309. E*)

PENTANDRIA. DIGYNIA. Phellandrium.

at Wisbeach, by the Rev. R. RELHAN, by whom it was shewn to Mr. Hemsted and also communicated to Dr. Smith. E.)

P. July—Aug.

(peucedanifolia.

O. All the leaflets strap-shaped; involucre none; bulbs of the roots egg-shaped, sitting.

Pollich. 1. 889. t. 3—E. bot. 348.

Root crowded with bulbs. Stem stronger and thicker than that of the preceding species, upright, slightly angular, scored, leafy, but little branched. Root-leaves doubly winged; those of the stem winged, all the leaflets strap-shaped, sharp-pointed. Umbels with stronger and less numerous spokes than in *O. pimpinelloides*. Umbellules many-flowered, level, often red about the centre, white towards the circumference. Partial involucre many-leaved. Calyx rather upright, very irregular. Fl. Brit.

Sulphur-wort. Upon the authority of Pollich, Dr. Smith, and Dr. Afzelius, I have detached this plant from the varieties of *O. fistulosa*, with which it has long been confounded. E.)

The author observes, the plants I gathered in the Isle of Wight, correspond with the figure of Pollich, and the leaflets are three or four inches long, but the *O. fistulosa* has leaflets rarely more than half or three fourths of an inch long. The bulbs of the roots seem to vary their situation as the plant grows in more or less water, in a thin or stiff mud, or in a garden soil, so that their being placed in a bundle at the bottom of the stem, or on the fibres of the roots at a greater or less distance, are circumstances too variable to establish a character.

(Granchester meadow, Cambridgeshire. Rev. R. RELHAN. —Near Bury. Mr. MATTHEW.—About Bedford. Rev. Mr. ABBOT.—Near Freshwater Gate, In the Isle of Wight. E.)

P. May—June.

PHELLANDRIUM. Central florets smallest: fruit egg-shaped, smooth; crowned with the pistil and the calyx

aquat'icum. P. Ramifications of the leaves wide apart.

E. bot. 684—Fl. dan. 1154—Riv. pent. 65, Phellandr.—Woodv. 266—Blackw. 570—Dod. 591—Lob. obs. 424. 1, and ic. i. 735. 1—Ger. em. 1063—Park. 933. 6—Pet. 28. 4—H. ox. ix. 7—row 1. 7—Ger. 905.

(Root spindle-shaped, thick, with whirls of fibres. *Stem* hollow, bending, branched, leafy, wide apart, furrowed. *Leaves* spreading very wide, triply winged, cut. The *outer florets* larger, and irregular. *Calyx* 5-leaved. *Fl. Brit. E.*)—*Leaves* under the surface of the water long and hair-like. Mr. WOODWARD. *Stem* very thick. *Petals* white.

Water Hemlock, or *Horsebane*. Rivers, ditches, and pools. [Clifton, near Severn Stoke, Worcestershire. Mr. BALLARD.—Ditches near Darlington. Mr. ROBSON.—In a pit at the farm yard three miles on the Stretford road from Manchester. Mr. CALEY.] B. June—July.*

Var. 2. Fine-leaved.

Grows in running streams. The leaves are divided like those of *Ranunculus aquatilis* in the same situations. Sometimes, though rarely, when the plant grows in an angle out of the rapid course of the stream, it produces flowers. Rev. R. RELHAN. Ray mentions it as growing between Woodstock and Blenheim, near the bridge.

CICUTA. *Fruit* nearly egg-shaped: ribbed.

C. Umbels opposite the leaves; leaf-stalks bordered, blunt. viro'sa.

E. bot. 479—*Phil. trans. abr.* x. 23. at p 772—*Woodv.* 268—*Fl. dan.* 208—*Blackw.* 574. a. b. c.—*Gunner.* 2—*Riv. pent.* 77. *Cicutaria*—*Dod.* 589. 3—*Lob. obs.* 105. 2, and *ic.* 1. 208 2—*Ger. em.* 256. 4—*Park.* 1241. 3—*J. B.* iii. 2. 175 2—*Pet.* 28. 1—*H. ox.* ix. 5. 4.

(*Stem* branched, furrowed, leafy. E.)—*Leaves* winged. *Leaflets* spear-shaped, in threes; serratures white at the point. *Umbel* expanding, red at the base. *Involucellum* of several leaves, bristle-shaped, short. *Styles* upright, white; in the fruit wide apart. *Summits* simple. *Fruit* compressed, even, lopped, opening transversely. LINN. *Stem* about four feet high, reddish towards the bottom. *Leaves*, serratures sometimes brown. *Fruit-stalks* sheathed at the base by the leaf-stalks.

* The seeds are recommended in intermittents, and are said to be diuretic, antiseptic, and expectorant. Dose from one to three drams daily. Dr. LANGE.—The leaves are sometimes added to discutient cataplasms.—It is generally esteemed a fatal poison to horses, occasioning them to become paralytic; but this effect is owing to an insect, (*Curculio paraplecticus*) which generally inhabits within the stems. The usual antidote is pig dung.—In the winter the roots and stem, dissected by the influence of the weather, afford a very curious skeleton or net work. Horses, sheep, and goats eat it. Swine are not fond of it. Cows refuse it. *Chrysomela Phellandria*, and the Gilt *Leptura* are found upon the roots, and the *Curculio paraplecticus* within the stems.

Receptacle of the spokes reddish. *Leaves* with about seven pairs of *little-leaves*, which are variously divided and indented. *Petals* yellowish pale green.

Long-leaved Water Hemlock. Water Cowbane. Sides of pools and rivers. [Pond two miles from Northwich on the side of the road to Chester; and in Nottingham Park. Mr. WOOD.—Near Norwich. Mr. PITCHFORD.—Near Yarmouth. Mr. WOODWARD.—Kingston pool, near Stafford. St.—Lochs of Forfar and Restenet. Mr. BROWN.—Mr. Slaney's pool dam, Hatton, Shropshire.]—(in the Leen, near the Rock holes, in Nottingham Park. PULTENEY. E.) P. July—Aug.*

ÆTHU'SA, *Involucellums* reaching half way round, 3-leaved, bent downwards; *fruit* nearly globular, deeply furrowed.

Cynapium. *Æ.* All the leaves alike; fruit nearly globular, scored.

Curt.—Kniph. 12—*Riv. pent.* 76, *Cynapium.*—*E. bot.* 1192—*Ger. em.* 1061. 1—*Park.* 933. 2—*Pet.* 28. 3—*Blackw.* 517—*H. ox.* ix. 7. n. 2. *fig.* 1st.

From one foot and half to two feet high, branched. *Leaves* doubly winged, smooth, glossy dark green. *Leaflets* divided into three segments, which are again subdivided into three or five. *Umbels* spokes often eighteen or more. *Involucellum* three very long and slender leaflets, pointing downwards. *Flowers* whitish.

Fool's Parsley or Cicely. Lesser Hemlock. Cornfields and kitchen gardens. A. Aug.—Sept.†

Me'um. *Æ.* All the leaves divided into many bristle-shaped segments; involucre 1 leaf; fruit egg-oblong, tapering at each end.

* This is one of the rankest of our vegetable poisons. Numerous instances are recorded of its fatality to the human species in a treatise upon it by *Wepfer* and *Haller's hist. helv. n.* 781. See also an account of its deleterious effects in the *Phil. Trans. abr. x.* Early in the spring, when it grows in water, cows often eat it, and are killed by it; but as the summer advances, and its scent becomes stronger, they carefully avoid it. Though a certain and fatal poison to cows, goats devour it greedily and with impunity. Horses and sheep eat it with safety.

† This plant from its resemblance to common parsley, has sometimes been mistaken for it, and when eaten it occasions sickness. If the curled leaved parsley only was cultivated in our gardens, no such mistakes would happen. Cows, horses, sheep, goats and swine eat it. It is noxious to geese.

Dicks. h. s.—*E. bot.* 2249—*Ludw.* 66—*Jacq. austr.* 303—*Riv. pent.* 63, *Meum*—*Clus.* ii. 198. 2—*Dod.* 305—*Lob. obs.* 449. 2, and *ic.* i. 777. 1—*Ger. em.* 1052. 1—*Park.* 888. 1—*H. or.* ix. 2, row 1, fig. 2—*Blackw.* 525—*Matth.* 24—*Ger.* 895—*Tourn.* 165—*Fuchs.* 231—*J. B.* iii. 2. 11—*Trag.* 445—*Kniph.* 4.

(*Stem* upright, generally undivided, naked, scored. *Flowers* white or reddish, uniform. *Calyx* seldom visible. *Petals* spear-shaped, bent inward at the points. *Fruit* rather compressed, with sharp ribs. *Fl. Brit. E.*)—*Involucrum* none, or but rarely, of one leaf. *Involucellum* from the side as in this genus. *Petals* white. LINN.

Spiguel. Meum. Spiguel Cicely. Athamanta Meum. Sp. pl. *Ligusticum Meum.* CRANTZ.—*Seseli Meum.* SCOP.—*Meum athamanticum.* JACQ. *Fl. Brit. & E. bot.* (Frequent in the Highlands of Scotland. E.)—Mountainous pastures in the northern counties. Near Dolgelle, Merionethshire. In a field by the fourth mile-stone, leading from Kendal to Appleby, but not frequent in Westmoreland. Mr. GOUGH. In Conistone, Furness Fells, Mr. JACKSON. P. May.*

CORIAN'DRUM. *Blossom* radiated: petals bent inwards, notched at the end: *involucrum* 1 leaf: *involucel.* reaching half way round: *fruit* globular, smooth.

C. Fruit globular.

sati'vum.

Woodv. 181—*E. bot.* 67—*Kniph.* 10—*Ludw.* 37—*Riv. pent.* 70, *Coriandrum*—*Blackw.* 176—*Fuchs.* 345—*J. B.* iii. 2. 89—*Dod.* 302. 1 and 2—*Lob. obs.* 403, and *ic.* i. 705. 2—*Ger. em.* 1012. 1 and 2—*Park.* 918 and 2—*Ger.* 859—*Matth.* 763—*Trag.* 115—*Lon.* 79.

Whole *plant* smooth. *Leaves* cut into very slender strap-shaped segments. *Proper calyx* five leaves, permanent, more distinctly formed than is usual in umbelliferous plants. *Styles*

* Linnæus says, that the radical fibres of this plant form the basis of the *Calculus Agagropila*, but though I have examined several of these balls, I never found it so. Mr. GOUGH. The roots and seeds are aromatic and acrid, They have been used as stomachics and carminatives. Sometimes they are given to cure tertians; and there is no doubt but they will often answer as well as pepper, and other acrid aromatics.—(Where this herb abounds in the Highlands, the milk and butter partake of its peculiar Melilot-like taste in the spring, and a pretty strong infusion of it gives cheese the flavour of the Swiss Chapzieger, so as hardly to be distinguished from that brought from abroad. *E. bot E.*)

permanent, reflected. *Outer* florets of the umbellules barren; petals larger, radiated, expanding; *central* florets fertile, petals equal, bent inwards. *Flowers* whitish. *Seeds* 2, continuing united so as to form a globe.

Common Coriander. Cornfields, road sides, and dunghills. About Ipswich, and in some parts of Essex. *Fl. Brit. E.*)
A. June—July.*

SCAN'DIX. *Bloss.* radiated: *central florets* frequently male: *petals* notched at the end: *styles* permanent: *fruit* awl-shaped.

odora'ta

S. *Seeds* furrowed, angular.

Jacq. austr. app. 37—*E. bot.* 697—*Kniph.* 4—*Riv. pent.* 57, *odorata*—*H. ox.* ix. 10. 1—*Dod.* 701. 1—*Lob. obs.* 423. 2. and *ic.* i. 734. 1—*Ger. em.* 1039. 3—*Park* 935. 1—*Ger.* 882. 2—*Blackw.* 243.

Leaves trebly winged; *little-leaves* with wing clefts; *segments* deeply and sharply serrated. *Seeds* longer than the umbellules. **WOODWARD.** *Umbels* on fruit stalks, both lateral, and terminating. *Seeds* of a sweet agreeable taste. *Whole plant* of an aromatic scent. **Dr. STOKES.** *Flowers* white. (*Stem* nearly two feet high, scored, leafy. *Seeds* very large. *E.*)

Sweet Cicely, or *Shepherd's-needle.* *Great sweet Chervil.* *Sweet Fern.* Orchards and waste places, but always near houses. **LIGHTFOOT.** And hedges. **HUDS.** [Banks of the Derwent above Chatsworth. **Mr. WHATELY.** Common near Leeds, and certainly wild. **Mr. WOOD.** In an orchard at the top of Souston's Roche, near Shelsley Walsh, Worcestershire. **Mr. BALLARD.**—Llangollen Monastery, Denbighshire, and White Ladies near Boscobel, Shropshire, **Rev. S. DICKENSON.** Tixall near Stafford. (In the meadows between Morton and Rushworth; certainly a native, (**Dr. RICHARDSON,**) and upon the sides of the brooks near Glusburn, in Craven, Yorkshire. **HAILSTONE** in Whitaker. Frequent in Yorkshire, and **Mr. Brunton** (in *Bot.*

* The leaves have a very strong and disagreeable scent. The seeds are grateful to the taste, and incruited with sugar are sold by the confectioners under the name of coriander comfits. The Edinburgh college use them as correctors in the bitter infusion and the preparations of senna, nothing so effectually covering the disagreeable taste of that medicine. They have been considered as suspicious, if not deleterious, but I have known six drams of them taken at once, without any remarkable effect.

Guide) observes that it is the most common umbellate vegetable in Wansley Dale, and not found near houses, but by the sides of rivulets. E.) A. June.*

S. Seeds with a very long beak; leaflets with many fine divisions. Pec'ten

Jacq. austr. 263—*Curt.* 249—*E. bot.* 1397—*Fl. dan.* 844—*Riv. pent.* 38, *Scandix*—*Dod.* 701. 2—*Lob. obs.* 419. 2, and *ic.* 726. 2—*Ger. em.* 1040. 1—*Park.* 916. 1—*J. B.* iii. 6. 71. 2—*H. ox.* ix. 11, row 2. 1—*Matth.* 527—*Ger.* 884.

Seeds thread-shaped, containing a kernel at the base. LINN. From eight to eighteen inches high. *Involucrum* none. *Umbel* of two or three spokes. *Involucellum* leaflets cloven. *Umbellules* of seven or eight florets. *Fruit* flattened at the base, finely serrated at the edges. The glandular *receptacle* crowning the germen of a fine purple. By carefully dividing the germen after it has shot out an inch or more in length, a tube continued from the styles down to the seeds may be discovered. *Petals* white. (*Stems* rather spreading. *Leaves* triply winged; *leaflets* with many divisions; *segments* alternate, strap-shaped, smoothish. E.)

Common Shepherd's Needle. *Venus Comb.* *Scandix Pecten Veneris.* Corn fields. A. June—July.

S. Seeds egg-shaped but tapering to a point; with short hooked prickles on the back, (blossoms uniform; stem smooth. Fl. Brit. E.) Anthris'cus.

Curt.—Jacq. austr. 154—*E. bot.* 818—*Riv. pent.* 35, *Cauc. fol. cerefol*—*Fl. dan.* 863—*Pet.* 27. 12—*H. ox.* ix. 10. row 1. 2—*J. B.* iii. b. 182. 1.

Leaves triply winged, segments wing-cleft, crowded with white stiff, upright hairs. *Stem*, branches and fruit-stalk quite smooth; sheaths of the leaves remarkably woolly. *Involucrum* none. *Involucellum* of four or five leaflets. *Umbels* either sitting, or on fruit stalks; spokes five or six. *Umbellules* spokes five to seven. *Flowers* almost all fertile. *Petals* white. The prickly fruit induced Scopoli and Haller to consider it as a *Caucalis*, and as such it is now arranged by Gmelin in the last edition of *Syst. Veg.* (and also in the fourth edition of this work, but we here restore it to its proper genus, according to the opinion of the majority of eminent botanists. E.)

* The seeds are used in the North of England for polishing and perfuming oak floors and furniture. Mr. WOODWARD.

PENTANDRIA. DIGYNIA. Chærophyl'lum.

Rough Chervil. Caulalis scandicina. With ed. 4. Amongst rubbish, and on road sides. [On the beach at Weymouth.

A. May—June.

Cerefo'lium. S. Seeds glossy, cylindrical and beaked; umbels lateral, nearly sitting.

Jacq. austr. 390—*E. bot.* 1268. *Fuchs.* 216—*J. B.* iii. 2. 75—*Dod.* 700. 2—*Trag.* 471—*Riv. pent. t.* 43—*Ger em.* 1038. 1—*Matth.* 526—*Ger.* 882. 1—*H. ox.* ix. 11. row 1. 1—*Lonic.* 1. 238—*Blackw.* 236.

Leaves of an exceedingly delicate texture. *Umbels* sometimes from the forks of the stem; often on fruit-stalks from a line to an inch in length. *Spokes* woolly, generally four, but sometimes three and five; those of the umbellules ten and twelve. *Involucrum* leaf, strap-shaped. *Blossom* white. Dr. STOKES. (*Stem* one foot, or one foot and a half high, scored. E.)

Common Chervil. Chervil Shepherds Needle. [Near Worcester, in considerable plenty in the hedge on the South East side of the Bristol road, just beyond the Turnpike. And in the hedges in Upper and Lower Old Swinford. STOKES.] (On a bank near Halesworth, Suffolk. Mr. TURNER and Mr. WIGG. Goldington road side, Bedfordshire. ABBOT. Lanes near Bageley, by Stockport. Mr. G. HOLME, in *Bot. Guide.* E.)

A. May.*

CHÆROPHYL'LUM. *Involucellum* reflected, concave: *petals* heart-shaped, bent inwards: *fruit* shining, generally smooth, oblong.

sylves'tre. C. Stem smoothish, scored, a little swollen at the knots.

Curt. 273—*Jacq. austr.* 149—*E. bot.* 752—*H. ox.* ix. 11. 5—*Fuchs.* 525—*Riv. pent.* 44, *Cerefol. sylv.*—*Pet.* 25. 2—*Lonic.* i. 238.

(*Root* spindle-shaped, branched, milky. *Stem* nearly three feet high. *Petals* sometimes notched, sometimes entire. *Fl.* Brit. E.) *Stem* woolly, particularly downwards. Central florets of the umbellules often barren Dr. STOKES. *Flowers* white. *Styles* permanent.

* It is cultivated in gardens as a pot-herb, and for sallads. It is slightly aromatic and aperient. Cows are extremely fond of it. Sheep and goats eat it. Horses refuse it.

Wild Ciceley. Smooth Cow Parsley. Cow-weed Chervil.
Hedges, orchards, and pastures. P. May—June.*

C. Stem spotted, joints swollen; stem and leaves rough; temulen'tum.
leafits cut, acute.

Fl. dan. 918—Jacq. austr. 65—E. bot. 1521—Riv. pent. 49,
Myrrhis.—Ger. 867—Ger. em. 1038. 2—Park. 915—Pet. 25. 3—
H. ox. ix. 10. 7—J. B. iii. 2. 70. 2 and 1.

From half to one yard high. *Involucrum* none, or from one
to four leaves. *Involucellum* one leaf, with six or eight clefts.
Flowers very white; *petals* cloven. REHMAN. *Umbellules* in the
center barren. LINN. (*Fruit* very smooth. E.)

Wild Chervil. Rough Cow-Parsley. C. temulum. Linn.
In hedges, common. B. Fl. Brit. A. July—Aug.

C. Stem somewhat swelling, angular, more or less hairy; au'reum.
leafits pinnatifid, acute, cut; seeds coloured, ribbed.

Jacq. austr. v. 1. t. 64—E. bot. 2103.

Stem three feet high, branched, solid, angular, striated,
slightly tumid below each joint, clothed more or less with short,
soft, deflexed hairs, among which a few coarse bristles are occa-
sionally interspersed. The *common leaf-stalk* surrounds the stem
by a ring at its base, but its edges upwards are linear and but
little dilated. The *leaves* and *leafits* have sharp and rather
elongated points, and are acutely pinnatifid and roughish.
Umbels fattish, cream-coloured, often having the rudiments of
a general involucre. *Seeds*, when young, rather tumid up-
wards; as they ripen, more spear-shaped, tawny or yellowish,
with three broad, smooth ribs at each side, and crowned with
the divaricated styles. E. bot.

Tawney-seeded Cow Parsley. This very rare plant was dis-
covered by Mr. G. DON in the borders of fields, between Ar-
broath and Montrose, and at Corstorphine near Edinburgh.
E. bot. P. June. E.)

* The roots eaten as parsneps have been found poisonous. The umbels
afford an indifferent yellow dye; the leaves and stems a beautiful green. Its
presence indicates a fruitful soil. Neither Horses, sheep, or goats are fond of
it. Cows and swine refuse it. LINN.—Cows and rabbits are fond of it. In
some parts of the kingdom, in times of scarcity, it is used as a pot-herb.
CURT.—Cows are so fond of it, that when a pasture is over-run with it, as is
often the case about Dudley, they are always turned in to eat it up. Mr. WAIN-
WRIGHT.

IMPERATORIA. *Petals* bent inwards, notched at the end: *seed* compressed, with a broad, membranaceous border, and 3 ridges on the back.

Ostru'thium. I.

E. bot. 1380—*Woodv.* 35—*Riv. pent.* 7. *Imperatoria*—*Fuchs.* 763—*J. B.* iii. 2. 137—*Blackw.* 279—*Park.* 942—*Trag.* 433—*Matth.* 775—*Lonic.* i. 228. 2—*Clus.* ii. 194. 2—*Dod.* 320. 1—*Lob. obs.* 398. 1. and *ic.* 700. 1—*Ger. em.* 1001. 1—*H. ox.* ix. 4. row 1. 1—*Garid.* 55.

(*Stem* upright, a foot and half high, undivided, scored, smooth. *Leaves* doubly-three-fold, smooth, sharply serrated and cut. *Umbels* terminating, few, level. *Umbellules* many-flowered. *Involucellum* a few bristle-like leaflets. *Flowers* white or reddish, regular. *Fl. Brit.* E.)

Masterwort. Found by Mr. LIGHTFOOT on the banks of the Clyde, particularly about Arden Caple. Isle of Bute, near Mount Stewart. (Banks of the Tweed, near the old castle of Drummelzier. E.) [Near Bridgnorth, but in a situation that would allow of its being an outcast of a garden.] (At Newbiggen near Middleton, and in Teesdale Forrest. Rev. J. HARRIMAN. Banks of Dardree Burn, between Dardree Shield and the Wear. Mr. WINCH in *Bot. Guide*. Cotterston, near Bernard Castle. Mr. ROBSON. In a meadow immediately after crossing the lane on the moors between Brough and Middleton, certainly wild. Mr. BRUNTON, ditto. E.)

P. June.*

PASTINACA. *Petals* rolled inwards, entire: *seeds* elliptical, compressed, leaf-like, smooth, border thin, narrow.

sativa.

P. Leaves simply winged; downy underneath.

Var. 1. Wild.

E. bot. 556—*Kniph.* 6—*Riv. pent.* 6, *Pastinaca*—*Fuchs.* 753—*J. B.* iii. 2. 149—*H. ox.* ix. 16. 2—*Matth.* 776—*Ger.* 856.

* Root warm and aromatic; a sudorific, diuretic, and scialogogue; recommended in dropsy, debilities of the stomach and bowels, and an infusion of it in wine is said to have cured quartans that have resisted the bark. Dr. STOKES. When chewed it excites a copious flow of saliva, occasioning a warm and not disagreeable sensation in the gums, and frequently curing the rheumatic tooth-ache

Stem three or four feet high, membranaceous at the corners. *Involucrum* none. *Umbel* spokes six to twelve. *Involucellum* sometimes of one leaf. *Umbellules* spokes short, numerous. *Flowers* yellow, (small. *Fruit* large. E.)

Wild Parsnep. Borders of ploughed fields, in lime-stone. (On chalky soil in Norfolk and Suffolk. Mr. WOODWARD. E.) [And marl. St. frequent in Gloucestershire.] B. June—July.

Var. 2. Leaves broader.

Fuchs. 751—*Dod.* 680. 2—*Ger. em.* 1025—*J. B.* iii. 2. 150—*Ger.* 870. 2—*Matth.* 747—*Ger.* 870. 1—*Dod.* 680. 1—*Lob. obs.* 407. 2, and *ic.* i. 709. 2—*Ger. em.* 1025. 1—*Park.* 944.

Retzius remarks that the cultivated garden Parsnep has wing-cleft leaflets, furnished with ear-like appendages, and that it is either hairy or smooth.*

Garden Parsnep.

SMYR'NIUM. *Petals* keeled, tapering to a point: *fruit* egg-globular, bulging, angular with ribs.

S. Stem-leaves growing by threes; on leaf-stalks: serrated. *Olusa'trum.*

Dicks. h. s.—E. bot. 330—*Ger.* 864. 2—*Trag.* 436—*Lonic.* i. 237. 2—*Blackw.* 403—*J. B.* iii. 2. 126—*Dod.* 698. 1—*Lob.* i. 708. 2—*Ger. em.* 1019—*Park.* 1930. 1—*Pet.* 24. 1—*H. ox.* ix. 4, row 2. n. 1. fig. 3d.

Root-leaves in triple threes, *stem-leaves* in threes; the upper ones opposite, three on a leaf-stalk. *Sheaths* of the leaves ragged and fringed. *Involucellum* very short. Central florets male, the others hermaphrodite. LINN. Whole plant smooth pale green, often of a sickly yellowish cast. *Flowers* greenish yellow.

Common Alexanders. Ditches and rocks on the sea coast. About Scarborough Castle, Deptford, Battersea, Vauxhall, and Nottingham. [Almost covers the South-west end of Anglesea. PENN. *Wales* ii. 253. Bungay, Suffolk. Mr. WOOD-

* The roots when cultivated are sweeter than carrots, and are much used by those who abstain from animal food in Lent: they are highly nutritious. In the North of Ireland they are brewed, instead of malt, with hops, and fermented with yeast. The liquor thus obtained is agreeable. The seeds contain an essential oil, and will often cure intermittent fevers. Hogs are fond of the roots, and quickly grow fat when fed on them.

WARD. Under the walls of York. **Mr. WOOD.** Between Great Comberton and Wollershill, under hedges near the Avon, Worcestershire. **NASH.** Found by the Rev. Mr. Welles at Hill Croome, Worcestershire. **Mr. BALLARD.** And Pirton, plentifully. **Mr. HOLLEFEAR.** Very common in all the Western counties, and also in the flat parts of Gloucestershire.

B. May—June.*

ANETHUM. *Petals* entire; rolled inwards: *fruit* lentil-shaped, but compressed; small, scored, bordered.

Fœni'culum. A. Leaves with many divisions, hair-like; seeds egg-oblong, tapering at each end, not bordered.

E. bot. 1208—*Mill. ill-Sheldr.* 15—*Woodv.* 160—*Riv. pent.* 61, *Fenicul.*—*Tourn.* 164—*Dod.* 297—*Lob. obs.* 448. and *ic.* i. 775. 2—*Ger. em.* 1032—*Park.* 884—*Blackw.* 288—*H. or.* ix. 2. row 1. 1—*Lonic.* 234—*Fuchs.* 501—*Trag.* 448—*J. B.* iii. 2. 3—*Ger.* 877. 1.

From three to five feet high; blue green. *Flowers* yellow. (*Stem* much branched, leafy, scored, smooth. Whole plant has a peculiarly strong aromatic odour. E.)

Common Fennel. Fennel Dill. Chalk cliffs. [Near Marazion, Cornwall, plentiful. **Mr. WATT.** Nottingham Castle. **Mr. WHATELY.**—Near Spetchly, Worcestershire. **St.**—Western coasts, common.

B. July—Aug.†

CARUM. *Involucrum* 1 leaf: *petals* united, bent inwards, notched at the end: *fruit* small, elliptical, bulging, roundish and scored.

Ca'ru.

C.

* It was formerly cultivated in gardens, but its place is now better supplied by celery. It is boiled and greedily eaten by sailors returning from long voyages, who happen to land at the South-west corner of Anglesea. **PENNANT.**

† The tender buds are useful in sallads.—The leaves boiled are used in sauce for several kinds of fish, and eaten raw with pickled fish.—In Italy the stalks are blanched as a winter sallad.—The seeds abound with an essential oil, which is carminative and diuretic, but not heating.—The *Papilio machaon* feeds upon it.

Fl. dan. 1091—*E. bot.* 1503—*Ludw.* 156—*Jacq. austr.* 393—*Woodv.* 45—*Tourn.* 160. 3—*Blackw.* 529—*Riv. pent.* 55, *Carum*—*Ger.* 879—*H. or. ix.* 9. row 2. 1—*Pet.* 26. 1—*Dod.* 299. 2—*Lob. obs.* 418. 1, and *ic. i.* 724. 1—*Ger. em.* 1034—*Park.* 910.

Plant two to three feet high; quite smooth. *Leaves* doubly compound; *leaflets* in sixes, in a sort of whirl, two of them longer. *Involucrum* from one to five leaves. *Umbel*, spokes nine to twelve. *Florets* all fertile. *Petals* and *styles* slightly tinged with red.

Common Caraway. Meadows and pastures. [Near Bury. Mr. CULLUM.] (Park-field at Thurleigh, Bedfordshire; in such quantity as to be regularly gathered for use. Dr. ABBOT. E.) B. May—June.*

PIMPINELLA. *Petals* bent inwards: *styles* upright: *summits* nearly globular: *fruit* small, egg-oblong; with 5 elevated ridges.

P. Leaves winged; leaflets on the root-leaves roundish, saxifraga, those of the upper ones strap-shaped. *Sp. Pl.*

E. bot. 407.

Var. 1. All the leaflets egg-shaped, serrated.

Tabern. ic. 88; 255, 1 and 2 of the *Germ. edition*—*Ger.* 887, 1 and 2—*J. B.* iii. 2. 111, 1 and 2—*H. or. ix.* 5. 6—*Trag.* 466—*Fuchs.* 609—*Matth.* 1032.

Pimpinella saxifraga *α.* *Fl. Suec.* *Pimpinella minor* *β.* *Fl. Lapp.* There is a wonderful diversity in the size and in the foliage of these plants. The root-leaves are winged, the leaflets egg-shaped and serrated; but the stem-leaves are many-cleft, the leaflets strap-shaped. It often happens that the root-leaves become like those on the stem, and then it has been supposed a distinct species although the same plant. LINN.

* Parkinson says, the young roots are better eating than parsneps.—The tender leaves may be boiled with pot-herbs.—The seeds are used in cakes; incruusted with sugar are called caraway comfits, and are distilled with spirituous liquors for the flavour they afford.—They are no despicable remedy in certain agues.—They abound with an essential oil, which is antispasmodic and carminative.—Sheep, goats, and swine eat it. Cows and horses are not fond of it. (We learn from the Philosophical Journal that one pound of Caraway seeds, yielding four ounces of oil, also affords about half an ounce of Camphor. E.)

PENTANDRIA, DIGYNIA. *Pimpinella*.

Var. 2. Leaflets on the root-leaves egg-shaped, serrated, those on the stem-leaves strap-shaped, mostly entire; floral-leaves strap-shaped.

Jacq. austr. 395—*Clus.* ii. 197. 2—*Dod.* 315. 2—*Lob. obs.* 413. 1, and *ic.* 719. 2—*Ger. em.* 1044. 2—*Park.* 947. 4—*Cam. epit.* 776.

Var. 3. Leaflets on the root-leaves egg-shaped, serrated; on the lower stem-leaves deeply wing-cleft; floral leaves winged.

Fl. dan. 669—*Blackw.* 472—*Riv. pent.* 83, *Pimpinella minor*.
Pimpinella minor. α. *Fl. lapp.* 106.

Var. 4. All the leaves doubly winged, leaflets strap-shaped, mostly entire; floral-leaves winged.

Specimen from Mr. RELHAN.

Var. 5. *dissecta*. Root-leaves doubly winged, leaflets wing-cleft, segments entire; stem-leaves doubly winged, leaflets entire; floral-leaves cloven at the end.

Retz. iii. t. 2.

The first spring leaves the first year of its growth are simply winged, the leaflets roundish, but when these vanish it never puts forth other than such as are mentioned above.

Pimpinella dissecta. RETZIUS.

Var. 6. All the leaves winged, leaflets wing-cleft, segments spear-shaped; floral-leaves wing-cleft.

Jacq. austr. 397—*Gouan. ill.* 15—*Riv. pent.* 80, *Pimpinella*.

Pimpinella orientalis. GOUAN. JACQUIN.

All the above varieties are probably occasioned by the different age of the plant, and the greater or lesser expansion of its foliage according to the soil in which it grows. It is probable that the first fruit-leaves are the same in all, that is, simply winged, the leaflets egg-shaped and serrated. When these disappear, the lower leaves have wing-cleft, or doubly winged leaves, and the upper leaves become also more compound with the rest. An attentive cultivation is wanted to demonstrate whether such be the case, or whether some of them be really distinct species.

Small Barnet Saxifrage. Saxifrage Anise. Dry gravelly soil.
P. Aug—Sept.

mag'na.

P. Leaves uniform, winged; leaflets spear-shaped, irregularly serrated; floral-leaves wing-cleft.

E. bot. 408—*Fl. dan.* 1155—*Jacq. austr.* 396—*Dod.* 315. 1—*Lob. obs.* 413. 2, and *ic.* i. 720. 1—*Ger. em.* 1044. 1—*Park.* 947. 1—*Fuchs.* 608—*J. B.* iii. 2. 109—*Clus.* ii. 197—*Barr.* 243—*H. ox.* ix. 5, row 1. 1—*Cam. epit.* 775—*Pet.* 26. 5—*Lonicer.* 229. 2—*Moris. umb.* 5. *f.* 1.

Leaflets broader than they are long, serrated, as if besmeared with oil, veined, of the appearance of those of *Skirrets* (none circular, or strap-shaped, or divided into many parts.) *Leaf-stalks* compressed. LINN. *Stem* two to three feet high. *Stem-leaves* gradually narrower, at length strap-shaped, almost entire. *Umbel*, spokes fourteen. *Umbellules*, spokes ten to eighteen. *Petals* white. RELH.

Great Burnet Saxifrage, or *Anise*. Woods and hedges in lime-stone. [Ripton Wood, Huntingdonshire. Mr. WOODWARD.—Worcestershire. Mr. BALLARD.—Hollinghall Wood, Leicestershire. Dr. ARNOLD.—About Thirsk, and Burrowbridge, Yorkshire, very common. Mr. ROBSON.] P. Aug—Sept.

Var. 2. LINN. Blossoms pale rose colour.

Riv. pent. 81. *Pimpinella fl. rubro.*

[In Wednesbury Field, Staffordshire.]

Aug.

Var. 3. All the leaves jagged. RAY.

Pet. 26. 6—*H. ox.* ix. 5, row 1. 3—*Moris. umb.* 5. 1.

Hedges near Maidstone, Kent. RAY.*

P. Plant dwarfish; umbels very numerous, compound and dioica. simple; male and hermaphrodite flowers on distinct plants. HUDS.

Jacq. austr. 28—*E. bot.* 1209—*Clus.* ii. 200. 1—*Ger. em.* 1054. 3—*Ger.* 863—*J. B.* iii. 2. 18, 1—*Lob. adv.* 331. 2, and *ic.* i. 745. 2—*Ger. em.* 1021. 3.

Stem a hand's breadth high, wide spreading, smooth, scored, with but few leaves. *Leaves* 3 or 2-fingered, strap-shaped. *Umbels*, one terminating, and two lateral, opposite, generally compound, some few simple. *Petals* long-spear-shaped, bowed in, not notched. *Stemens* white, long. *Involucrum* none. Some plants with only stamens, others with stamens and pistils.

* This and the former species partake nearly of the same qualities. The root is very acrid, burning the mouth like pepper. It affords a blue oil. Its acrimony hath occasioned it to be used to cure the tooth-ache, and to cleanse the skin from freckles. It is chewed to promote the secretion of saliva, and is used in gargles for dissolving viscid mucus in the throat. In Germany it is prescribed in asthma and dropsy.—The *Papilio machaon* is found upon both species.

Nearly allied to *P. glauca*, or constituting a distinct genus. LINN. Root spindle-shaped. Female flowers have five stamens, but the anthers are imperfect. HUDSON. The male plant has a yellow sickly appearance. Mr. SWAYNE. Flowers yellowish or whitish.

Least Anise. Mountainous pastures. Uphill, Somersetshire. [St. Vincent's Rock, just behind the Hot Well House, Bristol.]
P. May—June.

APIUM. *Involucr.* 1 leaf: *petals* equal: *fruit* small, bulging, ribbed: *styles* bent backwards.

graveolens. A. Stem-leaves wedge-shaped.

Kniph. 5—*Ladw.* 180—*Fl. dan.* 790—*Blackw.* 443—*E. bot.* 1210
Ger. 862—*H. ox.* ix. 9. 8—*Fuchs.* 744—*J. B.* iii. 2. 100—*Trag.* 464—*Pet.* 26. 12—*Matth.* 768—*Dod.* 695—*Lob. obs.* 405. 2, and *ic.* i. 707. 1—*Ger. em.* 1014—*Park.* 926.

Involucrum often wanting. LINN. Stem smooth, shining, deeply furrowed. *Umbels*, some sitting, others on long fruit-stalks, appearing as if proliferous. Mr. WOODWARD. Root-leaves winged. *Leaflets* divided into three lobes, serrated. *Umbels*, spokes five to eleven; those of the *umbellules* eleven to sixteen. *Petals* white.

Smallage. *Wild Celery*. Ditches and marshes. [Salt marshes near Yarmouth, and in the midland counties. Mr. WOODWARD.—Bog near Marazion, Cornwall. Mr. WATT.—Moors, Sansom Fields, Worcester. ST.—Side of the river opposite St. Vincent's Rocks.]—(Rimrose Bridge, between Bootle and Crosby, and Park shore, near Liverpool. Dr. BOSTOCK and Mr. SHEPHERD. E.) B. Aug.*

ÆGOPODIUM. *Fruit* egg-oblong, scored, tapering at each end.

Podagra'ria. Æ. Upper leaves 3 together, lower ones in triple threes.

Fl. dan. 670—*E. bot.* 940—*Riv. pent.* 47, *Podagraria*—*Ger.* 848—*J. B.* iii. 2. 145—*Dod.* 320. 2—*Lob. obs.* 398. 3, and *ic.* i. 700. 2—*Ger. em.* 1001. 2—*Park.* 943—*Pet.* 25. 10—*H. ox.* ix. 4. 11.

* The root in its wild state (when it grows near water. ST.) is fetid, acrid, and noxious; but when cultivated (in dry ground, ST.) it loses these properties, and the root and lower part of the leaf-stalks and stem blanched by covering them up with earth, are eaten raw, boiled in soups, or stewed. In this latter state it is called *Celery*. They are said to be hurtful to persons subject to nervous complaints. They are certainly good antiscorbutics. The seeds yield an essential oil. Sheep and goats eat it. Cows are not fond of it. Horses refuse it.

Upper leaves opposite. LINN. Root creeping. Umbels and umbellules, spokes 14. Blossom white. REHMANN. Leaflets spear-shaped, serrated. Mr. WOODWARD.—(Stems upright, furrowed, leafy. Petals rather unequal. E.)

*Herb Gerard. Gout-weed. Ashweed. Orchards, gardens, and pastures, common. P. May.**

TRIGYNIA.

VIBURNUM. *Cal. with 5 divisions; superior: bloss. 5-cleft: berry of 1 cell; closed: seed 1.*

V. Leaves heart-shaped, serrated, veined, cottony under-Lanta'na. neath.

E. bot. 331—Jacq. austr. 341—Matth. 217—Dod. 781—Lob. obs. 591. 3—Ger. em. 1490—Kniph. 1—Walc.—Park. 1448—J. B. i. 558.

Leaves oval; the down radiated, each hair consisting of several rays diverging from a point. Flower-leaves coloured. Blossom cloven half way down, white. Summits so much united as to appear one. Berries black.—(Branches slender; the younger ones downy, leafy. E.)

Pliant Mealy-tree. Way-faring-tree. Mealy Guelder Rose. Woods and hedges, in calcareous soil. [Herts, frequent. Mr. WOODWARD.—Ripple Field, Worcestershire, Mr. BAL-LARD.] S. May.†

V. Leaves lobed; leaf-stalks set with glands.

O'pulus.

E. bot. 332—Fl. dan. 661—Ger. 1236. 1—Dod. 846. 1—Ger. em. 1424. 1—Park. 209. 5—Trag. 1002—Matth. 1269—J. B. i. 553.

(Smooth, very much branched, the branches opposite. E.)

—The *neutral florets* in the circumference of the umbel are the first to expand. They have five minute imperfect stamens and three pistils, which are sometimes covered by small projecting scales, of the same substance with the blossom, but the scales are not always present. These abortive parts of fructification drop before the perfect flowers expand. The *summits* are scarlet, but there are no styles to the pistils, and hardly any fila-

* The leaves may be eaten early in the spring with other pot-herbs. Cows, sheep, and goats eat it. Horses are not fond of it.

† The bark of the root is used to make bird-lime. The berries are drying and astringent.

PENTANDRIA. TRIGYNIA. *Sambucus*.

ments to the stamens. *Leaf-stalks* with one or two pair of glands; those near the extremity of the flowering branches with five to eight thread-like stipulæ, frequently terminated by glandular knobs. Mr. GOUGH. *Umbels* with five to seven spokes. *Blossoms* white. *Berries* red.

Water Elder. Guelder-rose. Woods and wet hedges.

S. May—June. Berries ripe in Sept.

Var. 2. The *Guelder Rose* is a variety in which the whole of the *umbel* consists of neutral florets, and is contracted into a globular form. Dr. STOKES.

SAMBU'CUS. *Cal.* 5-toothed: *bloss.* regular, with 5 shallow clefts: *berry* juicy, closed, many-seeded.

E'bulus.

S. Tufts with 3 divisions; stipulæ leaf-like; stem herbaceous.

Curt.-E. bot. 475—*Fl. dan.* 1156—*Woodv.* 260—*Blackw.* 488—*Mill.* 126—*Matth.* 1270—*Lob. obs.* 589. 2—*Ger. em.* 1426
J. B. i. a. 549. 2—*Fuchs.* 65—*Ger.* 1238—*Trag.* 796.—*Park.* 209. 7.

Stems very brittle. *Leaves* winged, with several pair of leaflets. *Leaflets* spear-shaped, serrated, unequal at the base, the upper margin deficient. Mr. WOODWARD. *Stem* and *leaf-stalks* furrowed. *Little leaves* at the base of the leaf-stalks heart-shaped. *Calyx* segments sometimes six, purple. *Blossom* segments pointed, white above; purple beneath. *Anthers* purple; one fixed on each side of every filament, so that there are properly speaking, ten anthers. *Berry* 3-celled, 3-seeded.

Dwarf Elder. Walwort. Danewort. Hedges and road-sides. Tutbury Castle, Staffordshire. Mr. PITT.—On Goose-green, near Dalton, Lancashire. Mr. ATKINSON.—(Warboys, Huntingdonshire, and Honingham, Norfolk. Mr. WOODWARD.—Common in the hedges of Bedfordshire. ABBOT;—and Cambridgeshire. RELHAN.—In Rainrow, road side Bridge, near Goodwin's Mill, Cheshire. RAY.—Very near Aspatria, Cumberland, and only in one field on the East side of the town. Rev. J. DODD, in *Bot. Guide*.—Between Llansannan church and the river, Denbighshire. Mr. GRIFFITH.—In Spetisbury Town Street, and in hedges above the village, near the Rings, Dorsetshire. PULTENEY.—Lane between Causey Hall and Beamish Burn, Durham. Mr. WINCH. in *Bot. Guide*.—Near Carisbrook Castle, Isle of Wight, and near Housbourn. Mr. E. FORSTER, jun. *ditto*.—Near the church at Southwood, Norfolk, abundantly. Rev. G. R. LEATHES. *ditto*.—Under Scar-

borough Castle walls. Rev. Archdeacon PIERSON.—At the foot of Tamworth Castle Hill, towards the river.—Watling-street Road, where crossed, by the foot path from Norton to Wilton, Northamptonshire. E.) S. July*

S. Tufts with 5 divisions; leaves winged; leaflets nearly ni'gra. egg-shaped, serrated; stem tree-like.

E. bot. 476—*Fl. dan.* 545—*Blackw.* 151—*Woodv.* 78—*Matth.* 1268—*Ger.* 1234—*Fuchs.* 64—*Ger. em.* 1422. 1—*Dod.* 845. 1—*Ger. em.* 1422. 2—*Park.* 208. 1—*Trag.* 997—*J. B. i.* a 544.

Berries green, at length blackish purple, with a juice of the same colour. Seeds 3. RELHAN. Blossoms white. Berries black. Anthers yellow, arrow-shaped, one on each filament.

Common Elder. Woods and damp hedges. S. April—May.†

Var. 2. Berries white or green.

Staffordshire, Warwickshire, and Shropshire.‡

* Has the same medical properties with the *S. nigra*, but in some respects more violent, and therefore less manageable. A dram and a half of the root is a strong purge.—The berries give out a violet colour, (and are used to dye blue. E.)—The green leaves drive away mice from granaries, and the Silesians strew them where their pigs lie, under a persuasion that they prevent some of the diseases to which they are liable. Neither cows, goats, sheep, horses, or swine eat it.

† The whole plant has a narcotic smell; it is not well to sleep under its shade.—The wood is hard, tough, and yellow. It is commonly made into skewers for butchers; tops for angling rods; and needles for weaving nets. It is not a bad wood to turn in the lathe.—The inner green bark is purgative, and may be used with advantage where acrid purgatives are requisite. In smaller doses it is diuretic, and has done eminent service in obstinate glandular obstructions, and in dropsies. If sheep that have the rot are placed in a situation where they can get at the bark and the young shoots, they will soon cure themselves. It is an ingredient in the black dye.—The leaves are purgative like the bark, but more nauseous. They are an ingredient in several cooling ointments. If turnips, cabbages, fruit-trees or corn, (which are subject to blight from a variety of insects) are whipped with the green leaves and branches of elder, the insects will not attack them. *Phil. Trans.* v. 62. p. 348. A decoction of the flowers, taken internally, is said to promote expectation in pleurisies. Externally they are used in fomentations to ease pain and abate inflammation. They are likewise useful to give a flavour to vinegar. They are fatal to turkeys. A rob prepared from the berries is a gentle opener, and promotes perspiration. The juice of the berries is employed to give a red colour to raisins or sugar wines. The berries are poisonous to poultry.—The pith being exceedingly light, is cut into balls, used in electrical experiments. Sheep eat Elder. Horses, cows, and goats refuse it. LINN.—Others say that cows are fond of it. The *Aphis Sambuci*, and the *Phalara Sambucaria*, are found upon it.

‡ The berries of this kind are also used for making wine.

Var. 3. *laciniata*. Leaflets jagged.

Kniph. 8—*Ger.* 1234. 2—*Dod.* 845. 2—*Lob. obs.* 589. 2—*Ger. em.* 1422. 3—*J. B. i. a.* 549. 1—*Park.* 208. 3.

Retzius in his 3d fasc. obs. believed this to be a distinct species, but in his 6th fasc. he abandons this opinion, having found that the seeds uniformly produce the *S. nigra*.

Parsley-leaved Elder. (Near Bury, Suffolk, Mr. Woodward, E.)—In hedges, near Manchester, Bristol, Dartford, and Walsoken, near Wisbech. *S.*

STAPHILE'A. *Cal.* with 5 divisions: petals 5: caps. inflated, united: seeds 2, globular, marked with a scar, somewhat like a nut.

pinna'ta. *S.* Leaves simply winged; (styles and capsules only two. *E. bot. E.*)

E. bot. 1560—*Kniph.* 3—*Gisek.* 56—*Matth.* 274—*Lonic.* 30. 2—*Lob. obs.* 540. 2—*Park.* 1418—*J. B. i. a.* 274—*Ger.* 1249—*Trag.* 1098—*Dod.* 818—*Ger. em.* 1437.

(Capsules 2, rarely three together, membranaceous and inflated. Seeds large, when ripe hard, and as if varnished. A low shrub, somewhat resembling an ashling, branched, smooth, Flowers bell-shaped, yellowish. *Fl. Brit. E.*)—Styles sometimes two, but mostly three. Capsule 3-celled. Seeds constantly two in the larger cells, that in the third abortive. LEERS. Leaflets varying from egg-shaped to spear-shaped, but always pointed. Blossoms in whirls, white.

Winged Bladder-nut-tree. Hedges near Pontefract, Yorkshire. RAY.—(Woods in the farther part of the county. MERRETT. E.)—About Ashford, Kent. PARKINSON. S. June.

TA'MARIX. *Cal.* with 5 divisions: petals 5: caps. 1-celled, 3-valved: seeds with hairs.

gal'lica. *T.* Flowers with 5 stamens; branches scaly; scales sitting alternate.

E. bot. 1318—*Mill. ic.* 262. 1—*Blackw.* 331. 2—*Lob. adv.* 447. and *ic.* 218, *narbonens*:—*Kniph.* 2.

(Branches slender, nodding, red, shining. Leaves small, tiled, sharp-pointed, rather fleshy, smooth. *Fl. Brit. E.*)—Flowers in long slender spikes, white, with a rosy tinge.

French Tamarisk. [In great plenty on St. Michael's Mount, Cornwall, and every where about the Lizard, though chiefly on the banks of earth called hedges. First communicated to me by Mr. GIDDY.—On the beach near Hurst Castle, and elsewhere on the Western coast of England. Dr. PULTENEY.] —(On the cliff to the East of Hastings. Rev. Dr. GOODENOUGH. By Landguard Fort. Sir T. G. CULLUM. E.) S. July*

CORRIGIO'LA. *Cal.* 5-leaved, border membranaceous, white: petals 5: *nut* small, roundish, but 3-sided.

C. Leaves oblong; flowers in a terminating bundle. *littora'lis*.

E. bot. 668—*Fl. dan.* 334—*J. B.* iii. 379. 2—*H. ox.* v. 29. 1.

Root slender. *Stems* numerous, prostrate, little divided, smooth, leafy. *Leaves* alternate, strap-spear-shaped, blunt, very entire, rather fleshy, smooth, glaucous, growing slender at the base. *Fl. Brit. E.*)—*Flowers* sometimes lateral. *Calyx* very like the blossom, but the segments towards the base are of a rich chesnut brown. The whole habit of the flowers, more particularly the seeds and the pistils, resemble the *Polygonums*. In Portugal it is not limited to the sea side, but grows in hedge banks and in ploughed fields at a distance from the sea.

Sand Strapwort. [Found by Mr Hudson on Slapham Sands beyond Dartmouth and near the Star Point. Mr. MARTYN. (On the Beach near the Tin Mine at Helston, Cornwall. F. BARONE.—On the shore of Loe Pool, near Helston, opposite Penrose, on each side of a low wall. Mr. E. FORSTER, jun. in *Bot. Guide. E.*) A. June—Sept.

TETRAGYNIA.

PARNAS'SIA. *Cal.* with 5 divisions: petals 5: *nectaries* 5, heart-shaped, fringed, with little balls on the top of the fringe: *caps.* 4-valved, 1-celled: *seeds* with a membranaceous border.

P. Nectaries simple. *palus'tris*.

* (Sheep are very fond of browsing on the branches of this plant. Dr. SMITH. E.)

PENTANDRIA. PENTAGYNIA. *Statice*.

Dicks. h. s.—*E. bot.* 82—*Kniph.* 7—*Ludw.* 110—*Mill. ill.*—*Fl. dan.* 584—*Dod.* 564. 3—*Lob. obs.* 330. 1—*Ger. em.* 840. 1—*Park.* 429. 2—*H. ox.* xii. 10. 3—*Ger.* 691. 2—*J. B.* iii. 537. 2.

Stem somewhat twisted. Whilst it is in flower, the *germen* having neither style nor summit, is open at the top. The *stamens* lay their anthers alternately upon the orifice, and having discharged their pollen, recede back to the petals. LINN. *Stems* undivided with five sharp corners. *Petals* a little scolloped at the edge, slightly nicked at the end, white, with semi-transparent greyish veins. *Nectaries* green, the globules yellow, from ten to fifteen, generally thirteen. *Stamens* only half as long as the petals, at first not longer than the germen, but each in order becomes longer than the rest, as it sheds its pollen on the orifice of the germen, which closes as soon as all the anthers have shed their pollen. *Root-leaves* heart-shaped, on long leaf-stalks. *Stem-leaves* sitting. (*Seeds* numerous, very small. E.)

Grass of Parnassus. *Marsh Parnassia.* Moist meadows in Wales and the Northern counties. [Common in every boggy meadow in Norfolk. Mr. WOODWARD.—Also in Staffordshire and Worcestershire. Dr. STOKES.—Abundant in a meadow called the Moor, at Blymhill. Rev. S. DICKENSON.—(Bootle Marsh and Crosby Rabbit Warren, near Liverpool. Dr. BOSTOCK. E.)—On the tops of the high lands about Buxton. Miss SPARROW.]*

P. Aug.—Sept.

PENTAGYNIA.

STA'TICE. *Cal.* 1 leaf, entire, plaited, dry, permanent: petals 5: *caps.* 1-celled, without valves: *seed* upright.

Arme'ria. S. Stalk simple, with a head of flowers; leaves trap-shaped

Dicks. h. s.—*E. bot.* 226—*Fl. dan.* 1092—*Walc.*—*Kniph.* 5—*Dod.* 564. 1—*Lob. obs.* 242. 1—*Ger. em.* 602. 1—*Park.* 1279. 13—*Ger.* 482. 1—*J. B.* iii. 336. 2—*Pet.* 72. 8.

(*Root* woody. *Calyx* small, upright. *Petals* inversely egg-shaped with a small claw. E.) *Stalk* from two to eight inches

* Another striking confirmation of the remark that the same species of plants may grow both on mountains and in marshes, because the clouds resting on the tops of the mountains keep the air in a moist state, as is done by the fogs in meadows, and other low situations.

high, sheathed at the top by a skin-like involucre which extends down it for near an inch from the base of the head of flowers. *Blossom* pink.

Common Thrift. Sea Gilliflower. Sea Cushion. Meadows and rocks on the sea coast, and mountainous situation, as Snowdon; near Settle; and Ingleborough. Wansley Dale, between Ascrig and Aysgarth. Mr. WOOD.—Wells, Norfolk; Southwold, Suffolk. Mr. WOODWARD.—All the rocky coast of Cornwall. Mr. WATT.—(At Knot's Hole, Garston, near Liverpool. Dr. BOSTOCK. E.)—Inch-keith in the Firth of Forth. On the Cliffs near Sidmouth, very large. (In great profusion by the foot path leading over the rocks between Whitburn and Tyne-mouth. E.) P. May—June.*

S. Stalk panicled, cylindrical; leaves smooth, without Lino'nium. nerves; dagger-pointed underneath.

Kniph. 4-E. bot. 102-Blackw. 481-Fl. dan. 315-Matth. 980-H. ox. xv. l. row 1, n. 1. f. 4th-Dod. 351-Lob. obs. 157. 3-Ger. em. 411. 1-Park. 1234-J. B. iii. 876. 3.

Salt marshes, and rocks on the sea coast. Wells, Norfolk; Southwold, Suffolk. Mr. WOODWARD.—(Garston, near Liverpool. Dr. BOSTOCK. E.) P. July—Sept.

Var. 1. Much smaller. Leaves gradually tapering to the base, having no regular leaf-stalks. RAY.

Lob. adv. 123-Ger. em. 411. 2.

We have two varieties corresponding with the above character; in the one the leaves short and blunt, in the other longer and more pointed. The sharp point at the end of the leaf marks them both as belonging to this species. Mr. WOODWARD. *Blossom* of a very deep purple. Mrs. WATT.

Harwich. Ramsgate. RAY.—[Cornwall. Mrs. WATT.—Lynn. Mr. WOODWARD.]

Var. 2. Leaves longer, and taper-pointed. Flowers later. RAY.

Lavender Thrift. Sea Lavender. Sea banks near Walton, Essex; and between Heybridge and Maldon. RAY. Both varieties on the Lancashire coast at Low Furness, and on the West side of Milnthorpe sands, Westmoreland. Mr. GOUGH.]

* It is much used in gardens as an edging for borders, and when in full blossom gives a glowing tinge to pastures on the sea coast. Horses and goats eat it. Sheep are not fond of it.

reticulata. S. Stalk panicled, lying flat; the barren branches naked and bent backwards; leaves wedge-shaped, without any sharp points.

Pluk. 42. 4.

Root-leaves oblong-wedge-shaped, on leaf-stalks. *Stipulae* half embracing the stem, awl-shaped, terminating in a long point, membranaceous at the edge. Mr. WOODWARD.—(*Blossoms* blue, terminating, bundled. E.)

Matted Sea Lavender or *Thrift*. On the Norfolk coast. [At Wells, Norfolk, abundantly. Mr. WOODWARD.—At Blake-ney. Messrs. CROWE and PITCHFORD.]—(Tydd Marsh, Cambridgeshire. Mr. SKRIMSHIRE, in *Bot. Guide*.—On the salt marshes near Frieston, Leverton, &c. also near Fosdyke Wash, Lincolnshire, it grows in the level grassy land where the sheep bite close. Sir J. BANKS. E.) P. July—Aug. *A. Fl. Brit.*

LI'NUM. *Cal.* 5-leaved: *petals* 5: *caps.* 10-valved, (E. bot.) 10-celled: *seeds* solitary.

(1) *Leaves* alternate.

usitatis'simum. L. Calyx and capsules dagger-pointed; petals scalloped; leaves spear-shaped; stem generally solitary.

Curt. 326—*E. bot.* 1357—*Kniph.* 9—*Ludw.* 144—*Blackw.* 160. 2—*Woodv.* iii—*Fuchs.* 471—*J. B.* iii. 451—*Matth.* 414—*Dod.* 533—*Lob. obs.* 225. 1—*Ger. em.* 556—*H. or. v.* 26. row 2. 1—*Lonic.* 153. 2—*Blackw.* 160. 1—*Trag.* 353.

Stem cylindrical. *Petals* sky blue, scored with deeper coloured lines. *Filaments* united at the base. *Styles* blue, thicker towards the top. The inner edge of the *cup* a little fringed. (*Seeds* elliptical, very shining. E.)

Common Flax. Cornfields and sandy pastures in Dorsetshire and Devonshire. [Near Cawston, Norfolk. Mr. BRYANT. Corn fields, Ripton, Huntingdonshire. Mr. WOODWARD. Downs, old pastures, and corn fields, near to common about Redruth and Trelubbus, Cornwall. Mr. WATT.] A. July*

perenne. L. Calyx and capsules blunt; leaves spear-shaped, very entire.

* This valuable plant originally came from those parts of Egypt which are exposed to the inundations of the Nile. The seeds yield, by expression only, a large proportion of oil, which is an excellent pectoral, as is likewise the mucilaginous infusion. They make an easy and useful poultice in cases of external inflammation; and they are the food of several small birds. After the oil is expressed, the remaining farinaceous part, called Oil Cake, is given to oxen, who soon grow fat upon it. The oil itself differs in several respects from other expressed oils: it does not congeal in winter, nor does it form a solid soap with fixed alkaline salts: and

Var. 1. Upright.

E. bot. 40—*Mill.* 166. 2—*Kniph.* 2.

(*Stems* numerous, ascending. *E.*) *Calyx* leaves oval, hollow, with a short bluntish point at the end, not fringed or hairy, marked with five lines. *Blossom* blue. *St.*

Perennial Flax. Pastures and meadows in a calcareous soil. [Marham, Norfolk. Ixworth, Suffolk. Gogmagog Hills. Mr. WOODWARD.] (Hedges near Sowdown, Devon. POLWHELE. Baydales, near Darlington. Mr. ROBSON, in *Bot. Guide*. On the banks about Bernack Heath, and Wittering Heath, Northamptonshire. MORTON. In Bulmer field, at the end of the avenue leading to Castle Howard. TEESDALE. *E.*)

P. June—July.

Var. 2. Stem trailing. Both varieties rise from the same root. In the upright the *stamens* are longer than the pistils, in the trailing they are shorter. HUDS.

L. Calyx-segments tapering to a point; leaves scattered, angustifoliate, strap-awl-shaped, rough when stroked downwards. *linum*.

E. bot. 381—*Jacq. Austr.* 215—*Clus. hist.* i. 318. v.—*Bocc. mus. t.* 125.

Clus. hist. i. 318. left hand fig. *Lob. obs.* 226. 2. and *ic.* 1. 413. right hand fig. are tolerably good representations of it, but the stems are too upright at the base. *Stems* numerous, branched towards the top. *Leaves* spear-strap-shaped, stiff, pointed, scattered, hairy underneath, as far as the stem is trailing pointing upwards, above that in various directions. *Calyx* shorter than the capsule, egg-shaped, blunt, but ending in a sharp point, keeled with a prominent rib. *Blossom* much smaller than that of *L. perenne*, pale reddish purple with darker lines; *petals* not absolutely entire. *Style* not bent back beyond the stamens. WOODWARD. *Root* simple, fibrous, pale brown; woody, perennial. *E. bot.* *Stalks* numerous, ascending, round, smooth, leafy, branched only towards the top; from eighteen to twenty-four inches or more in height. *Leaves* strap-spear-shaped, little if at all hairy, very entire, irregularly disposed,

it acts more powerfully as a menstruum upon sulphureous bodies. When heat is applied during the expression it obtains a yellowish colour, and a peculiar smell. In this state it is used by painters and varnishers. The fibres of the stem are manufactured into linen, and this linen, when worn to rags is made into paper. (It may be further remarked, as stated by Mr James Hall. *Month. Mag.* v. 26. that even the refuse of flax, usually thrown away after dressing, though too rough and short for being converted into cloth, on being beat and shaken so as to separate the strawy from the tough stringy particles, (which can be speedily done by a horse or mill) becomes thereby as soft and pliable, and as useful for making paper, as the longest and what is reckoned the most valuable part of the plant, after it has been converted into cloth.

PENTANDRIA. PENTAGYNIA. *Linum*.

lying nearer to the stem than in *L. usitatissimum*. *Flowers* in a panicle. *Calyx* leaves pointed, keeled, permanent, membranaceous, not hairy at the edge. *Petals* bluish, streaked with purple veins; wedge-shaped, deciduous, slightly united by the claws. *Stamens* five, white, scarcely broader at the base. *Anthers* blue, inclined to the styles, somewhat united. *Styles* the length of the filaments, bluish, slightly cohering. *Capsule* globular but tapering to a sharp point; with ten cells and ten valves. *Seeds* one in each cell. Mr. GIDDY. *Stems* slender, but stiff. *Leaves* narrow, sharp-pointed. *Flowers* dilute purple or flesh colour or white. RAY. (*Stems* reclining at the base. HUDS. E.) *Leaves* rough when stroked downwards, particularly the upper ones, but this roughness vanishes with age. *Stems* many from one root. *Petals* very entire. *Capsules* and *Calyx* sharp-pointed.

Narrow-leaved Pale Flax. L. angustifolium. Huds. Fl. Brit. With. Ed. 2. *L. tenuifolium.* With. Ed. 4. (A very different plant from the *L. tenuifolium* of Linn. Dr. SMITH. E.) Dry meadows and pastures. [Very plentiful in Cornwall. Mr. WATT. In Devonshire. Minster in the Isle of Sheppey, and Deal. HUDS.] (Near Allerton Hall, by Liverpool. Mr. SHEPHERD. Darsham, Suffolk. Mr. DAVY. E.) P. June—July.

(2) *Leaves opposite.*

catharticum. L. Leaves opposite, egg-spear-shaped; stem forked; bloss. pointed.

Dicks. h. s.—E. bot. 382—*Kniph.* 8—*Ludw.* 143—*Curt.* 151—*Walc.—Blackw.* 368—*J. B.* iii. 455. 2—*Pet.* 55. 12—*Ger. em.* 560. 5—*Park.* 1336. 10—*Barr.* 1165. 1.

Before the flowers open they hang down. LINN. *Calyx* edge fringed with minute glands on foot-stalks. Dr. STOKES. *Filaments* united, forming a bag which incloses the lower half of the germen.

Purging Flax. Mill-mountain. Dry meadows and pastures. [Common in Norfolk and Suffolk. Mr. WOODWARD. E.] [On St. Vincent's rocks, Bristol.] A. May—July.*

Radiola. L. Leaves opposite; stem forked; stamens 4, pistils 4.

Dicks. h. s.—E. bot. 893.—*Fl. dan.* 178—*Kniph.* 8—*Vaill.* 4. 6.—*Ray* 15. 3. at p. 348—*Pet.* 59. 12—*Michel.* 21—*Ger. em.* 509. 2.

* An infusion of two drams or more of the dried plant is an excellent purge, and has been given with advantage in many obstinate rheumatism. It frequently acts as a diuretic. Horses, sheep, and goats, eat it.

(One or two inches high. *Stem* forked, much branched, leafy, cylindrical, smooth. *Leaves* sitting, egg-shaped, very entire, smooth. *Flowers* from the forks of the stem, on fruit-stalks, solitary, upright, small. *Petals* inversely egg-shaped. *Stamens* equal. *Styles* short. *Summits* knobby. *Capsule* roundish. *Seeds* solitary, elliptical. - *Fl. Brit. E.*)

Gmelin in his ed. of *Syst. veg.* has again made this a distinct genus, restoring its former name, *Radiola*. *Blossom* white.

All-seed Flax. Least Rupture-wort. Radiola millegrana.
Fl. Brit. Moist sandy heaths. A. Aug.

DRO'SERA. *Calyx* with 5 divisions: *petals* 5:
Caps. 1 cell, with 5 valves at the top: *seeds*
 several, fixed to the sides.

D. Stalks from the root; leaves circular. LINN. Styles 6. rotundifolia.
 HUDS.

Fl. dan. 1028. - *E. bot.* 867. - *Sheldr.* 39. - *Lob. obs.* 472. 2. - *Ger. em.* 1556. 1. - *Park.* 1052. 1. *b. c.* - *Pet.* 63. 10. - *Blackw.* 432. - *Thal.* 9. 1. - *J. B.* iii. 761. 2. - *Barr.* 251. 1. - *Trag.* 529. 3. - *Lonic.* 222. 2. - *Ger.* 1366. 1.

(*Capsule* 3-valved. *Summits* club-shaped. *Stamens* shorter than the petals. *Petals* inversely egg-shaped. *Flowers* on fruit-stalks, upright. *Leaves* hollow, covered on the upper surface with viscous red hairs. *Flower-stalks* several, upright, two to three inches high, cylindrical, smooth. *Bunch* terminating, most frequently solitary, recurved, simple. *Fl. Brit. E.*) *Leaves* and *leaf-stalks*, fringed, but the latter are apt to lose the fringe as the plant grows old. *Blossom* white.

Round-leaved Sundew. Redrot. Mossy bogs. Malvern Chace on the side of the rivulet flowing from the Spa. Mr. BAL-
 LARD.—(About Allerton Hall, near Liverpool. Mr. SHEPHERD.
 E.)—Birmingham. Heath. P. July—Aug.*

* The whole plant is acrid, and sufficiently caustic to erode the skin: but some ladies know how to mix the juice with milk, so as to make it an innocent and safe application to remove freckles and sunburn. The juice that exudes from it unmixed will destroy warts and corns. The plant has the same effect upon milk as the *Pinguicula vulgaris*; and like that too is supposed to occasion the rot in sheep. (Whether from the caustic power inherent in the vegetable, or, (as suggested by Dr. Borlase) from an insect, the *Hydra Hydatula* of Linnæus, which lays its eggs and feeds on the plant, is scarcely yet determined E.) Is not the sour coagulated milk of the Syrians, called *Leban* or *Leven*, at first prepared with some plant of this kind? See *Russell's nat. hist. of Aleppo*.

longifolia. *D.* Stalks from the root; leaves inversely egg-spear-shaped.
LINN. Styles 6. HUDS.

E. bot. 868—*Fl. dan.* 1093—*Dod.* 474. 2—*Ger. em.* 1556. 2—*Pet.* 63. 11—*Thal.* 9. 2—*J. B.* iii. 761. 1—*Barr.* 251. 2—*Lob. adv.* 454. 2—*Park.* 1052. 1, a.—*Ger.* 1366. 2.

Grows with the former. Is it really a distinct species? LINN. In this and the former the styles are 6, and the valves of the capsule 3. On Brigstear Moss, near Kendal, growing to twice and thrice the size they do about London. Ray's three additional species probably only varieties. *CURT. bot. excurs.*—Differs from the preceding only in the shape of the leaves. *Bot. arr. Ed. i.* (*Styles* sometimes 9. SOWERBY.)

Dr. Hall well remarks that the *foot-stalks* of the leaves in *D. rotundifolia* are hairy; in this species, and *D. anglica*, they are smooth; an excellent distinction which Dr. Smith says is constant. E.)

Long-leaved Sundew. Bogs with the former. LINN. [In Norfolk, frequent. Mr. WOODWARD.—Knutsford Moor, Cheshire. Mr. AIKIN.—Along with *D. anglica*, in Thorn Moor, Yorkshire, the latter is nearly twice as large as the former. Mr. ROBSON.—(About Allerton Hall, near Liverpool. Mr. SHEPHERD. E.) P. July—Aug.

anglica. *D.* Stalks from the root; leaves oblong; styles 8. HUDS.

Dicks. h. s.—*E. bot.* 869—*H. ox.* xv. 4, row 1, fig. the last—*Pet.* 63. 12—*Park.* 1052. 2,

Has many things in common with the preceding species, but is larger, and the *capsules* have four valves. HUDSON.—(The chief distinction seems to be the narrowness of the leaves. E.)

Great Sundew. Boggy ground in the northern counties, Devonshire, Hants, and Norfolk. [In a marsh on a heath near Holmes Chapel, Cheshire. Mr. HUNTER.]—(On Chat Moss, Lancashire. Mr. SHEPHERD.—Roydon Fenn, near Diss, Norfolk. Mr. WOODWARD. E.) P. July—Aug.*

The name, *Sundew*, seems to be derived from a very striking circumstance in the appearance of these plants; the leaves are fringed with hairs supporting small drops or globules of a pellucid liquor like dew, which continue even in the hottest part of the day, and in the fullest exposure to the sun. Perhaps the acrimony of the plant resides in this secreted liquor.

* Few persons can have observed the *Drosera* in its native bogs, without seeing some of the leaves doubled up; but the cause of this, I believe, was first ascertained in this kingdom, by the attention and ingenuity of my friend, Mr. Whately, now a surgeon in London. In the month of August, 1780, that gentleman being on a visit in Derbyshire, and gathering some specimens of the *Drosera*, examined some of these

SIBBALDIA. *Cal.* 10-cleft: *petals* 5; fixed to the calyx: *styles* from the sides of the germen: *seeds* 5, naked.

S. Leaflets with 3 teeth, wedge-shaped.

procumbens,

folded leaves, and finding a dead insect in each, was prompted to irritate the upper surface of other leaves, by touching them with a pin. The effect was as he expected, a sudden contraction of the leaf upon the pin. He communicated this curious fact to me; and though the experiment has since failed in my hands, I am satisfied he saw what he described. His friend, Mr. Gardom, a Derbyshire botanist, who accompanied him at the moment of this discovery, has since written me the following account:

"In August, 1780, examining the *Drosera*, in company with Mr. Whately, on his inspecting some of the contracted leaves, we observed a small insect or fly very closely imprisoned therein, which occasioned some astonishment, to me at least, how it happened to get into that confined situation. Afterwards, on Mr. Whately's centrally pressing with a pin other leaves, yet in their natural and expanded form, we observed a remarkable sudden and elastic spring of the leaves, so as to become inverted upwards, and as it were encircling the pin, which evidently shewed the method by which the fly came into its embarrassing situation. This experiment was renewed repeatedly, and with the same effect, so that Mr. Whately and myself are both certain of the fact."

Two or three years after Mr. Whately had sent me an account of his discovery, I was much pleased to find the following account of the *Drosera* in a German author, which, though it differs in some respects from the observations of Mr. Whately and Mr. Gardom, yet upon the whole it tends further to illustrate the singular properties of these curious plants.

"July, 1779. *D. rotundifolia* and *D. longifolia*.—I remarked that many leaves were folded together from the point towards the base, and that all the hairs were bent like a bow, but there was no apparent change on the leaf-stalk. Upon opening these leaves I found in each a dead insect. Hence I imagined that this plant, which has some resemblance to the *Lioncea muscipula*, might also have a similar moving power.

"With a pair of pincers I placed an ant upon the middle of a leaf of the *D. rotundifolia*, but so as not to disturb the plant. The ant endeavoured to escape, but was held fast by the clammy juice at the points of the hairs, which was drawn out by its feet into fine threads. In some minutes the short hairs on the disk of the leaf began to bend, then the long hairs, and laid themselves upon the insect. After a while the leaf began to bend, and in some hours the end of the leaf was so bent inwards as to touch the base. The ant died in 15 minutes, which was before all the hairs had bent themselves. On repeating this experiment I found the effects to follow sooner or later, according to the state of the weather. At 11 in the morning, a small fly placed in the centre of a leaf, died sooner than the ant had done, the hairs bent themselves as before, and at 5 in the evening the leaf was bent together, and held the fly shut up. The same experiment being made on the *D. longifolia*, the same effects followed, but more rapidly. I observed, that in sultry weather, and hot sunshine, when the drops of juice upon the points of the hairs are largest, the experiment succeeds best. If the insect be a small one, sometimes only one edge of the leaf is folded up; hence it should seem necessary that the insect should stir all the hairs of the leaf."—Roth. Beytrag. p. 64.

PENTANDRIA. POLYGYNIA. *Myosurus*.

Dicks. h. s.—*E. bot.* 897—*Fl. dan.* 32—*Penn. voy.* ii. 5, at p. 43—*Pluk.* 212. 3—*Pet.* 41. 7.

Root woody. *Stems* trailing, covered with the remains of the dead leaf-stalks. *Leaf-stalks* slender, below oblong, membranaceous, embracing the stems. *Leaves* three-fingered. *Leaflets* inversely egg-shaped, but somewhat lopped at the end, beset on each side with soft hairs; teeth somewhat pointed. *Blossom* yellow, smaller than the calyx. *Pistils* sometimes ten and five in the same plant. In what respects it differs from *Potentilla* may be seen by comparing the descriptions of the two genera. LINN. *Leaves* entire at the edges, lopped and three-toothed at the end. When cultivated, the stamens are often seven, or more, the germens ten; seeds ten; fixed to a dry hairy receptacle.

(Dr. Smith thinks the figure of Plukenet rather represents *Potentilla subacaulis*. E.)

Procumbent Silver-weed, or *Sibbaldia*. (Named after Sir R. SIBBALD, who first described and figured it in his *Scotia Illustrata*, 1684. E.) Mountains of Scotland. [North side of Ben Lomond, three-fourths up the mountain, plentiful. On Ben Mor, sparingly. Mr. BROWN.] P. July—Aug.

POLYGYNIA.

MYOSU'RUS *Cal.* 5 leaves, united at the base, deciduous: *nectaries* 5, like petals; awl-shaped: *seeds* numerous, coated, pendent.

minimus. M.

(Dr. Barton of Philadelphia has discovered a similar power in the *Asclepias syriaca*, which, by means of the irritable valves of its flowers, detains flies or other insects which chance to alight upon it. *Annals of Botany*, v. 1 E.) These accounts will, I hope, occasion numerous observations to be made upon the British fly-trap, which so nearly approaches in its wonderful properties to the *Dionæa muscipula*, or *Venus Fly-trap*, a native of the bogs of Carolina. It is natural to enquire whether this destruction of insects be not necessary to the welfare of the plant? It is obvious that the experiments should be made upon well-grown vigorous plants in a fine day, as then the drops of adhesive liquor at the ends of the hairs are always the largest.

It may be useful to remark, that these plants are not to be found without a close inspection of the bogs they grow in, as they are much covered by, and entangled with moss. (It is suspected that this singular irritability may only be detected on hot sunny days. E.)

E. bot. 435—*Kniph.* 5—*Curt.* 251—*Fl. dan.* 406—*Mill. illustr.*
-*Dod.* 112. 1—*Lob. obs.* 242. 1—*Ger. em.* 426. 4—*Park.*
500—*J. B.* iii. 512—*Pet.* 39. 7—*Ger.* 345. 4—*Lonic.* ii.
18. 1.

Stamens varying from four to ten or twenty. **LYONS.** **GMEL.**
Leaves sometimes hairy. **HUDS.** From two to four inches high.
Stalk simple. *Leaves* narrow, strap-shaped. *Flowers* yellow-
ish green, terminating. *Receptacle* of the seeds very long, nearly
cylindrical, like the tail of a mouse. The whole plant is
acid.

Little Mouse-tail. Corn-fields, meadows, and pastures, in
a gravelly soil. [At Lahenham. **MR. CROWE.**—Near Derby.
MR. WHATELY.—Malvern Chace, Worcestershire. **MR. BAL-**
LARD.]—(Earsham, Norfolk. **MR. WOODWARD.** E.)

A. May—June.

CLASS VI.

HEXANDRIA.

MONOGYNIA.

(1) *Flowers with a Cup and a Blossom.*

FRANKE'NIA. *Bloss.* 5 petals: *Cal.* 1 leaf; beneath:
Capsule 1-celled; many seeded.

BER'BERIS. *Bloss.* 6 petals: *Cal.* 6 leaves: beneath:
Berry 2-seeded.

[*Hottonia palustris.* *Anthericum calyculatum.* *Lythrum*
hyssopifolium. *Peplis Portula.*]

(2) *Flowers with a Sheath, or Husk.*

LEUCO'JUM. *Bloss.* superior; of 6 petals; bell-shaped;
Stam. equal.

GALAN'THUS. *Bloss.* superior; of 6 petals; 3 inner
petals shorter, and notched at the end.

NARCIS'SUS. *Bloss.* superior; of 6 petals. *Nectary*
bell-shaped; surrounding the stamens.

ALLIUM. *Bloss.* beneath; of 6 petals: *Petals* egg-
shaped; sitting.

HEXANDRIA.

(3) *Flowers naked.*

CONVALLA'RIA. *Bloss.* beneath; 6-cleft; *Berry* 3-seeded.

ANTHE'RICUM. *Bloss.* beneath; of 6 petals; flat.

NARTHE'Cium. *Bloss.* 6 petals; *Style* none: *Seeds* with a tail at each end.

ORNITHO'GALUM. *Bloss.* beneath; of 6 petals: *Filaments* every other broader at the base.

SCIL'LA. *Bloss.* beneath; of 6 petals; deciduous: *Filaments* thread-shaped.

ASPA'RAGUS. *Bloss.* beneath; of 6 petals: *Berry* 6-seeded.

FRITILLA'RIA. *Bloss.* beneath; of 6 petals; egg-shaped; with a nectariferous hollow in the base of each.

TU'LIPA. *Bloss.* beneath; of 6 petals; bell shaped: *Style* none.

[*Juncus.* *Polygonum* *Hydropiper.* *Hyacinthus*, vid. *Scilla nutans.*]

(4) *Flowers without petals.*

TA'MUS. *Flowers* M. and F. on distinct plants. *Calyx* with 6 divisions.

F. *Style* 3-cleft: *Berry* 3-celled; beneath; *Seeds* 2.

A'CORUS. *Spike-stalk* many-flowered: *Caps.* 1-celled.

JUN'CUS. *Calyx* 6-leaved: *Caps* 1-celled.

PE'PLIS. *Calyx* 12-cleft: *Caps.* 2-celled.

DIGYNIA.

[*Rumex digynus.* *Polygonum persicaria*, & *Hydropiper.* *Agrimonia* *Eupatoria.* *Scleranthus annuus.* *Quercus.*]

TRIGYNIA.

COL'CHICUM. *Calyx* a sheath: *Bloss.* like 6 petals.

TRIG'LOCHIN. *Calyx* 3-leaved: *Bloss.* 3 petals: *Caps.* opening at the base.

RUMEX. *Calyx* 3-leaved: *Bloss.* 3 petals; *Seed* 1; 3-cornered.

TOFIEL'DIA. *Calyx* none: *Bloss.* 6 petals: *Caps* 3-celled; 6 valved.

[*Anthericum calyculatum*. *Drosera rotundifolia*, and *longifolia*. *Polygonum viviparum*. *Quercus*.]

HEXAGYNIA.

ARISTOLO'CHIA. *Calyx* none: *Bloss.* 1 petal; tongue-shaped; entire: *Caps.* 6-celled; beneath,

[*Alisma Damasonium*.]

POLYGYNIA.

ALIS'MA. *Cal.* 3-leaves: *Bloss.* 3 petals: *S. Vess.* several.

[*Triglochin maritimum*.]

MONOGYNIA.

GALAN'THUS. *Petals* 3, concave: *nectary* 3 smaller petals notched at the end: *summit* undivided.

G.

nivalis.

Dicks. h. s.—*Jacq. austr.* 313—*E. bot.* 19—*Kniph.* 1—*Walc.*—*Clus.* i. 169. 1—*Dod.* 230. 1—*Lob. obs.* 64. 3—*Ger. em.* 147—*Park. par.* 107, *fig. between* 6, 7, and 9—*Ger.* 120. 1—*Matth.* 1245.

(Only one pair of leaves, blunt, keeled, glaucous, sheathed at the base. *Stalk* cylindrical, naked, bearing one flower. *Sheath* cylindrical, often cloven at the edge. *Flower* on a fruit-stalk, nodding, scentless. *Petals* fleshy. *Capsule* 3-celled, 3-valved. *Fl. Brit. E.*) *Root* bulbous. LINN. *Blossom* white, with nine semitransparent streaks on each petal. *Nectary* white, with green streaks and a green border on the outside.

Snow-drop. Fair Maids of February. Orchards, meadows, sides of hedges. [At the foot of Malvern Hills, on the right of the road running below the Camp. Mr. BALLARD. Where no traces of any buildings or gardens are to be found.—Near Cirencester, Gloucestershire. Mr. ARROWSMITH.—Banks of the Tees, about Blackwell and Conniscliffe, in situations which do not admit of its being the outcast of gardens. Mr. ROBSON.] (Near St. John's Chapel, and at Broad-gate, Barnstaple. POL-WHELE. Heaton-wood; and in the most sequestered situations of Scott's Wood Dean, Northumberland. Mr. WINCH. in *Bot. Guide*.) Hedges at Laxfield, in great profusion, Mr. DAWSON

HEXANDRIA. MONOGYNIA. *Leucojum*.

TURNER. Pasture near Kirkstall Abbey, Yorkshire Rev. W. WOOD. Banks of the Skell, near Ripton, and Mackershaw-woods. Rev. J. DALTON. E.) P. Feb.—March.

LEUCOJUM. *Bloss.* bell-shaped, with 6 divisions, thickest at the ends : *summit* undivided.

Æstivum. L. Sheath many-flowered : style club-shaped.

Curt.-E. bot. 621—*Jacq. austr.* 203—*Renalm.* 100—*Chus. i.* 170—*Cam. epit.* 230. 3—*Ger. em.* 148. 4—*Lob. ic.* 122. 2—*Dod.* 230. 3.

About a foot high. *Leaves* three quarters of an inch broad, strap-shaped, keeled at the base, as long as the stalk. *Flowers* white, streaked, with a green blotch near the point of each petal. (*Root* bulbous. *Leaves* many. *Flowers* nodding. *Anthers* blunt, having two little holes. *Capsule* elliptical, three-celled. *Seeds* globular, large. E.)

Summer Snow flake. We are indebted to Mr. CURTIS for this addition to the British Flora. He found it about half a mile below Greenwich, by the side of the Thames; it has also, he says, been found on the opposite shore on the Isle of Dogs. [In a small island, in the river, about three miles south of Kendal, on the dam of the gunpowder mill. Mr. GOUGH.] (In pastures at Little Stonham, Suffolk. Mrs. COBBOLD. Near Reading. Mr. MURRAY. *Fl. Brit.* In a moist meadow at Up-ton, Bucks, remembered for fifty years by the present tenant of the farm; also in a peat-field near Dorney. Mr. GOTOBED, in *Bot. Guide.* In Rennoldson's Mill Dam near Heaton, Northumberland. M. WINCH *ditto.* P. May.

NARCIS'SUS. *Bloss.* superior, of 6 equal petals : *nectary* of 1 leaf, surrounding the stamens, mostly funnel-shaped.

poeticus. N. Sheath 1-flowered; *nectary* wheel-shaped, very short, skin-like, finely scalloped.

E. bot. 275—*Kniph.* 7, the 1st fig.—*Dod.* 223. 1.

(*Bulb* egg-shaped. *Leaves* half an inch wide, bluntish. E.) *Leaves* rounded on the keel, reflected at the edge. *Flower* solitary, pure white; *nectary* edged with crimson. E. bot.

White One-flowered Daffodil. Sandy heathy places. On a rabbit warren at Shorne, between Gravesend and Rochester. At Wood Bastwick, and other parts of Norfolk. (Keswick. Mr. HUTTON. Back of Mount Pleasant, Tunbridge Wells. Mr. J. WOODS, junr. in *Bot. Guide*. Near Haugham, Kent. Rev. J. LYON *ditto*. Field at Cove, Suffolk. Mr. W. JACOBSON. E.) P. May.

N. Sheath 2-flowered; nectary wheel shaped, very short, biflorous. skin-like, finely scalloped; leaves acute on the keel, the edges turned inwards. E. Bot.

E. bot. 276—*J. B.* ii. 604. 1—*Lob. ic.* 114. 1—*Dod.* 223. 2—*Clus.* i. 156—*Ger.* 110. 6.

(*Bulb* egg-shaped. E.) *Flowers* mostly two, sometimes one, and seldom more than three on a stalk, larger than any that bear many flowers upon a stalk, of a sweet, but cloying scent. *Blossom* pale whitish cream colour. *Nectary* pale yellow. PARK. Edged with white.

Pale Daffodil. Primrose Peerless. Meadows and hedges but rather rare. HUDS.—Fields and sides of woods in the west of England GER.—And at a distance from any house. RAY.—Near Hornsey Church. SHER. in R. Syn.—At Bellow Hill, near Whitchurch, Cheshire. Mr. VERNON.—Several places near Harefield. BLACKSTONE, 58.—Near Halifax. Mr. WOOD.—(About Tunbridge Wells. Banks of the river Wharf, at Thorp Arch, in plenty. Mr. KNOWLTON, in *Bot. Guide*. Meadows near Ripton. Mr. BRUNTON.—In fields near Yardley-wood-pool, Worcestershire, together with N. Pseudo-Narcissus. E.)

P. May.

N. Sheath 1-flowered; nectary bell-shaped, upright, curled; as long as the petals; petals egg-shaped. Pseudo-Narcissus.

E. bot. 17—*Tourn.* 185. *H.*—*Dod.* 227. 1—*Lob. obs.* 61. 1—*Ger. em.* 133. 2—*Pet.* 67. 9—*Swert.* i. 21. 3—*J. B.* ii. 592. 2—*Trag.* 757—*Ger.* 115. 2.

(*Bulb* roundish. *Leaves* rather glaucous, bluntly keeled, flattish at the edge. *Flower* nodding, large, of an unpleasant scent. *Germen* with three grooves. *Fl. Brit.* E.) *Stalk* two-edged. *Petals* egg-spear-shaped, straw-coloured. *Nectary* throughout of a full yellow; the rim a little plaited and snipt.

Common Daffodil. Woods, meadows, and sides of hedges. In woods near Erith, Kent. Norfolk Mr. WOODWARD.—And in orchards. Hanley Castle, Worcestershire. Mr. BALLARD.—(At Bank Hall, near Liverpool. Dr. BOSTOCK.—Penton

Wood, Huntingdonshire. Mr. WOODWARD.—Covers almost a whole field beyond Erdington, on the road from Birmingham to Sutton. Abundant in fields near Yardley-wood pool, Worcestershire. Madely, Shropshire. E.) P. March—May.

AL'LIIUM. *Bloss.* 6 petals expanding : *sheath* dry and skin-like, many-flowered : umbel crowded : *caps.* superior, 3-celled.

(1) *Stem-leaves flat ; umbel bearing capsules.*

Ampelo-
prasum.

A. Umbel globular ; stamens 3-pointed ; petals rough on the keel.

E. bot. 1657—*Clus.* i. 190. 1—*Dod.* 691—*Lob. obs.* 79. 1—*Ger. em.* 180. 2—*Park.* 872. 3—*J. B.* ii. 558.

(*Stem* upright, cylindrical, leafy at the base. *Leaves* nearly an inch broad, flat, roughly toothed at the border. *Germen* egg-shaped. *Summit* blunt. E.) *Filaments* three pointed and single pointed alternately. *Keel* of the petals more or less serrated. *Blóssom* pale purple.

Round-headed Garlic. Isle of Holmes in the Severn Sea.

P, July.*

(2) *Stem-leaves flat ; umbel bearing bulbs.*

arena'rium. A. Umbel sheath pointless ; stamens 3-pointed ; leaf-sheaths cylindrical.

Fl. dan. 290—*E. bot.* 1358—*Clus.* i. 193—*Ger. em.* 187. 4—*Park.* 873. 5—*J. B.* ii. 560—*Rupp. jen. ab. Hall.* 2. Mr. Woodward.

Bulbs and *blossoms* blue. *Stamens* a little longer than the blossom. *Leaves* narrow, entire at the edge. LINN. *Leaf-sheaths* strongly keeled. Mr. WOOD. *Stem* two to five feet high. *Leaves* three or four, the lower ones quickly withering, broad, edges hairy, or rather finely toothed, but the teeth not discernable without a glass. *Bulbs* numerous, deep purple. *Flowers* a few, on short fruit-stalks, small, purple, marked with a deeper line. WOODWARD.

* This is eaten along with other pot-herbs. It communicates its flavour to the milk and butter of cows that eat it.

Sand Garlic. Mountains of Westmoreland. Santine's meadow, Castle Howard. TEESDALE.—[Sir James Lowther's Woods, by Lowther, Westmoreland, and pastures adjacent. Mr. WOODWARD.—About Thorpe-arch, Yorkshire, plentiful. Mr. WOOD.—At Pool Bridge, in Furness Fells. Mr. JACKSON.]

P. July—Aug.

A. Umbel sheath very long; filaments awl-shaped.

carina'tum.

E. bot. 1658—Hall. *de All.* 2. 2. *in opusc.* at p. 392—Fuchs. 738—Trag. 748. 3—Lonic. 195. 1—Clus. i. 193. 2—Ger. *em.* 187. 5—H. *ox.* iv. 14. 5—Swert. i. 60. 5—Park. *par.* 143. 3—Lob. *ic.* 156. 1.

Root scentless. Stem to four feet high when cultivated. Leaves a foot long, not half an inch broad. Sheath-leaves two, awl-shaped, unequal. Umbel of few flowers, but many bulbs. Blossom dull brown yellow, often changing to purple. The plant has but little of the Garlic smell. HALLER.

Mountain Garlic. Rocks, meadows, pastures. [Sea-mew Crag, at the head of Winandermere. Mr. GOUGH.] Near Long-Sledale, Westmoreland. Near Ramsgate, Between Deal and Sandwich.

P. June—July.

(3) *Leaves round; umbel bearing bulbs.*

A. Filaments 3-pointed.

vinea'le.

E. bot. 1974—Dod. 683. 1—Ger. *em.* 179. 1—Pet. 66. 1—Park. 871. 1—Fuchs. 737—Lonic. 196. 1—Trag. 748.

Bulbs tapering, bowed back, often running out into long hair-like points, compacted into a close head. Blossom small, violet. Filaments with two long bristles projecting beyond the flower. LINN. Stem about two feet high. Leaves smooth, hollow, slender, very long. Umbel sheath of one leaf, broad at the base, ending in an awl-shaped point, about an inch long, scored with green lines. Bulbs numerous, white. Blossoms few, small. Mr. WOODWARD.

Crow Garlic. Meadows and pastures. [Near Norwich. Mr. CROWE.—Huntingdonshire and Derbyshire. Mr. WOODWARD.]

P. June—July.*

Var. 1. With a double head of bulbs.

Lob. *obs.* 78. 2—Park. 871. f. 3—H. *ox.* iv. 14. 4.

Near Worcester. STOKES.

* The young shoots are eaten in sallads, or boiled as a pot-herb.

oleraceum. A. Filaments undivided; leaves semi-cylindrical, rough, furrowed underneath.—(Leaves not rough.)

E. bot. 488—*Hall. de All.* 1. 2. in *opusc.* p. 386—*Clus.* i. 194.
1—*Ger. em.* 188. 6—*H. ox.* iv. 14. 2—*J. B.* ii. 561. 1.

Root a solid bulb. *Stem* 2 or 3 feet high, upright, or only a little bent towards the top, smooth, not scored, solid. *Leaves* hollow. *Bulbs* egg-shaped, forming a roundish knob; from between these arise several thread-shaped fruit-stalks, each supporting a single flower, which is drooping; cylindrical, but somewhat bell-shaped. *Blossom* whitish green, with three dark purple streaks on each petal. Very minute white dots, hardly visible to the naked eye, are scattered over the whole plant. *LINN.* *Leaves* and *leaf-stalks* deeply furrowed. *Bulbs* numerous. *Fruit-stalks*, some upright. *Blossom* pale, with purple lines. *Germen* prism-shaped, 6-angled. *Style* slender, longer than the blossom. Excepting that the leaves can hardly be called rough, it corresponds very exactly with *A. oleraceum*. *MR. WOODWARD.* *Stamens* shorter than the petals. (*Germen*, rough at the apex. E.)

Wild Garlic. Meadows, pastures, and amongst corn. [Baydale, near Darlington. *MR. ROBSON.*]—(Borders of Derwent water. *MR. DAWSON TURNER.*—In a field at Fincham, Norfolk. *Rev. R. FORBY.*—Banks of the Tyne, below Wylam. *MR. WINCH. Bot. Guide.*—Common about Rippon, and other parts of Yorkshire. E.) P. July.*

(4) *Leaves from the root: stalk naked.*

arsinum. A. Stalk 3-square; leaves spear-shaped, on leaf-stalks: umbel flat topped.

Dicks. h. s.—*E. bot.* 122—*Fl. dan.* 757—*Fuchs.* 739—*J. B.* ii. 566. 1—*Trag.* 748. 2—*Walc.—Matth.* 560.—*Dod.* 683. 2—*Lob. obs.* 80. 2—*Ger. em.* 179. 2—*Ger.* 141. 2—*Pet.* 66. 8—*H. ox.* iv. 15. 15.

Stalk, the lower part, semi-cylindrical. *RETZ.* *Flowers* large, numerous, white. (*Bulb* oblong, tapering. *Sheath* egg-shaped, shorter than the fruit-stalks. *Petals* egg-shaped, expanding. *Stamens* awl-shaped, equal. *Germen* top-shaped, 3-lobed, smooth. E.)

* The tender leaves are very commonly boiled in soups, or fried with other herbs—Cows, goats, sheep and swine eat it.—("The smell of Garlic is so inimical to moles, that, to get rid of them, it is sufficient to introduce a few heads of this plant into their subterraneous walks." *Month. Mag.* E.)

Ramson Garlic. Ramsons. Woods, hedges, and dry meadows. [Several meadows near Penn's mill at Erdington, Warwickshire, abound so much with this plant as to be called "the Garlick Meadows."] P. May—June.*

A. Leaves cylindrical, awl thread-shaped, as long as the stalk. *Schoenoprasum.*

Fuchs. 635—*Fl. dan.* 971—*Trag.* 742. 2—*Lonic.* i. 194. 2—*Dod.* 689—*Kniph.* 8—*Lob. obs.* 77. 1—*Ger. em.* 177. 1—*Ger.* 139. 1
H. or. iv. 14. row 1. 4—*Matth.* 550—*Dod.* 689. 2—*Lob. obs.* 78. 1.

(*Bulb* cylindrical, slender, matted together. *Umbels* globular, thick, many-flowered. *Sheath* egg-shaped, shorter than the flowers. *Petals* expanding, spear-shaped, white or pinkish, with a purplish rib. *Fl. Brit. E.*)

Chived Garlic. Meadows and pastures. By Fast-Castle, on the borders of Berwickshire, and in Westmoreland. [Cartmel Fell, in a small rivulet called Chivey Syke. Mr. JACKSON.—Meadows near Kirby-moor-side, Yorkshire. Mr. FLINTOFF.] P. June.

FRITILLARIA. *Bloss.* with 6 petals or 6 divisions, bell-shaped: *nectary* a cavity above each claw: *stam.* the length of the blossom: *summit* 3-cleft: *caps.* superior, 3-celled.

F. All the leaves alternate: stem 1-flowered: (*nectary* *Melea'gris*, strap-shaped. E.)

Dicks. h. s.—E. bot. 622—*Fl. dan.* 972—*Curt.* 218—*Walc.—Jacq. austr. v. app.* 32—*Kniph.* 6—*Renealm.* 146—*Clus.* i. 153. 1—*Ger. em.* 149. 1—*Ger.* 122. 1—*Clus.* i. 152—*Dod.* 233. 2—*Ger. em.* 149. 2—*Ger.* 122. 2—*Park. par.* 41. 2—*Swert.* i. 7. 4.

Root bulbous, solid, small for the size of the plant, throwing out numerous fibres beneath, and increasing by off-sets. *Stem* from the side of the root, twelve to eighteen inches high, cylindrical, smooth, bending at the top into an elegant arch. *Leaves* three to five, short, grass-like, half embracing the stem, alternate, distinct. *Flowers* pendulous; *fruit* erect; *stem* much

* An infusion in brandy is esteemed a good remedy for the gravel. *Penn. Tour*, 1772, p. 175.—Other plants growing near it do not flourish.—Cows eat it; but it communicates its flavour to the milk and butter; so as to be very offensive in the spring.

HEXANDRIA. MONOGYNIA. Tulipa.

lengthened after flowering. *Petals* oval, the three outer bulging at the base, the three inner flat, of a dull red, chequered with a deeper colour, without any mixture of green or yellow. **WOODWARD.** *Nectary* a fleshy glandular substance connecting the stamens to the petals.

Fritillary. Chequered Daffodil, or Tulip. Snake's-head. Guinea hen-flower. Meadows and pastures. Mawde Fields, near Rislip Common, Middlesex; near Bury, Enfield; and in the meadows between Mortlake and Kew. [Between Laxfield and Stirrup-street, Suffolk. **Mr. WOODWARD.**—In a meadow near Blymhill, Staffordshire, plentifully. **Mr. DICKENSON.**—Near Leicester. **Dr. ARNOLD.**] P. April—May.

Var. 2. White flowered.

In great abundance in a meadow on the right hand side of the road leading from Wolsley Bridge to Stafford, not a quarter of a mile from the bridge.

TU'LIPA. *Blos.* 6 petals: bell-shaped: *style* none: *caps.* superior, 3-celled.

sylves'tris. T. Flower rather drooping; leaves spear-shaped; stamens hairy above the base,

E. bot. 63—*Lob. hist.* 63. 2—*ib. ic.* 124. 2—*Chus. hist.* 151. 2—*Ger. em.* 138. 1—*Park.* 1342. 2—*Fl. dan.* 375.

(*Stem* most simple, upright, cylindrical, smooth, one-flowered, leafy in the middle, tapering at the base. *Leaves* alternate, rather embracing the stem, spear-shaped, sharp-pointed, keeled, rather glaucous. *E.*)—*Blossom* yellow, sweet scented. *Petals* spear-shaped, acute; outer ones greenish, with one or two transverse wrinkles at the base; inner ones dull yellow, with a green keel, and the edges hairy towards the bottom. *Filaments* very slender at the base, thicker just above, and surrounded with a fringe of white hairs, under which is found honey. *Anthers* and *Pollen* yellow. *Summit* blunt, neither compressed nor dilated. **LINN.**

In old Chalkpits in Suffolk and Norfolk; see *E. bot* 63, where it is first adopted as a naturalized plant. (Old Chalkpits at Whipnade, on the borders of Hertfordshire. **Rev. D. JENKS.** Top of Muswell Hill, Middlesex. **Mr. J. WOODS, junr.** Old Chalkpits near Norwich. **Mr. Rose.** Chalkpits near St. Peter's Barn, Risby Gate Street, Bury. **Sir T. G. CULLUM.** *Bot. Guide, E.*) P. April.

ORNITHO'GALUM. *Bloss.* 6 petals, upright, permanent, above the middle expanding: *filaments*, the alternate ones dilated at the base: *caps.* superior; 3 celled.

O. Stalk angular, 2-leaved; fruit-stalks in an unbranched lu'teum. umbel.

E. bot. 21—*Walc.—Kniph.* 1—*Clus.* i. 188. 2—*Dod.* 222—*Lob. obs.* 72. 3—*Ger. em.* 165. 2—*Pet.* 66. 12—*Fl. dan.* 378—*Fuchs.* 169—*J. B.* ii. 622. 1—*Ger.* 132. 2—*Lonic.* 193. 1—*H. ox.* iv. 13. 12—*Swert.* i. 57. 3—*Park. par.* 137. 7.

Root-leaf generally single, longer than the stem. *Stem-leaves* sometimes three or four, unequal, one much larger. *Fruit-stalk* sometimes solitary. *Petals* in two series, the inner greenish yellow, the outer green. Mr. WOODWARD. *Stem* from four to six inches high. *Leaves* fringed with fine white hairs. *Spokes* of the umbel from three to seven, each supporting only one flower. Mr. ROBSON.

Yellow Bethlehem Star. Gagea fascicularis. SALISBURY. Moist sandy places. Woods on the banks of the Tees near Greta Bridge, and Bignal, Yorkshire. *R. Syn.* Mr. ROBSON, and Rev. Mr. ZOUCH.—Near Doncaster and Kendal. [Under Malham Cove. Mr. WOOD.—In a meadow adjoining to the Copper Mills, Derby. Mr. WHATELY.]—(Shipmeadow, Suffolk, Mr. ASHEY. E.) P. April.*

O. Bunch very long; filaments spear-shaped; fruit-stalks pyrena'icum. when in flower expanding, equal, but afterwards approaching the stalk.

E. bot. 499—*Jacq. austr.* 103—*Clus.* i. 187. 1—*Dod.* 209. 1—*Lob. obs.* 47. 3—*Ger. em.* 97—*Ger.* 89—*J. B.* ii. 627. 1—*Park. par.* 137. 5.

Stalk one foot and half or two feet high. *Fruit-stalks* slender. *Flower-scales* membranaceous at the base, broad, and half embracing the stalk, upwards awl-shaped. *Petals* narrow,

*The bulbous roots of all the species are nutritious and wholesome, and those of this species have been employed for food in a scarcity of provisions. Horses, goats, and sheep eat it. Swine are not fond of it. Cows refuse it. (Mr. Salisbury has detached this plant, together with six exotic species, from the genus *Ornithogalum*, and constituted a new genus which he has named after Sir Thomas Gage, Bart. F. L. S. vid. monograph. in the *Annals of Botany.* E.)

HEXANDRIA. MONOGYNIA. Ornithogalum.

expanding, pale yellow within, green without, with whitish margins. Mr. WOODWARD. (*Stamens* half their length wider, awl-shaped at the point, *Anthers* vane-like. *Summit* bluntly 3-sided. *Fl. Brit. E.*)

Spiked Bethlehem Star. Meadows and pastures. Near Ashley, between Bath and Bradford; and near Chichester. [Near Queen Charlton, Somerset, and between Bath and Warminster. Mr. SWAYNE.]—(Keyson Park Wood, Bedfordshire. Rev. T. O. MARSH. *Fl. Brit. E.*) P. June.

umbella'tum. O. Flowers forming a corymbus; outer fruit-stalks taller than the central ones.

Jacq. austr. 343—*E. bot.* 130—*Ger.* 132. 1—*Dod.* 221. 1—*Lob. obs.* 72. 2—*Ger. em.* 165. 1—*Swert.* i. 57. 4.

Fruit-stalks very long, broad. *Flower-scales* very large, white, membranaceous. Mr. WOODWARD. *Petals* white, with a broad green streak along the under side. *Filaments* spear-shaped, flat, fleshy; every other broader. *Germen* with six blunt angles. (*Leaves* from the root, strap-shaped, grooved, shrivelled at the ends. *E.*)

Common Bethlehem Star. Woods, meadows, and pastures in Norfolk. [Plentiful in a field near Knaresborough, Yorkshire. Mr. ROBSON.] (On Everton Heath, Bedfordshire. ABBOT.—At Little Stonham, Suffolk. Mrs. COBBOLD. *E.*)

P. April—May.

(*nu'tans.*) O. Flowers pendulous toward one side; filaments dilated, cohering, bell-shaped, three of them longer and cloven.

E. bot. 1997—*Jacq. austr.* 301—*Fl. dan.* 912—*Curt. Mag.* 269.

Bulb egg-shaped. *Leaves* all radical, pale and somewhat glaucous, strap-shaped, channelled, sharp-pointed. *Stalk* solitary, rather taller than the leaves, cylindrical, upright. *Cluster* simple, composed of seven or eight large, greenish, and silvery white flowers. The permanent petals close over the germen, which becomes a roundish membranaceous capsule. *Bracteas* shorter than the flowers. *E. bot.* This elegant plant having been long described and figured in the floras of so many countries, in nearly similar latitudes with our own, we agree with Dr. Smith, that it ought no longer to be excluded from the catalogue of British natives; especially when we consider for how long a time, and in how great profusion it has been observed in the county of Suffolk.

Drooping Star of Bethlehem: Plentiful in the high fields near Bury. Rev. G. LEATHES.—In Eatonford field, Bedfordshire. Sir T. G. CULLUM, in *Bot. Guide*. E.) P. May.

SCILLA. *Bloss.* 6 petals, expanding, deciduous:
Filaments thread-shaped.

S. Leaves strap-shaped, narrow; flowers in a spike-like autumnalis.
corymbus; fruit-stalks naked, ascending, about as long as the flower.

Curt.-E. bot. 78—*Clus.* i. 185. 2—*Dod.* 219. 1—*Lob. obs.* 53. 3
—*Ger. em.* 110. 1—*Ger.* 98. 4.

Root bulbous, coated. Leaves numerous, much shorter than the stalks. Mr. WOODWARD, (not appearing till after the time of flowering. HOFFMANSEGG and LINK. E.) Flowers rather form a bunch than a corymbus; bluish purple.

Autumnal Squill. Dry pastures: St. Vincent's Rock, near Bristol; Lizard Point, Cornwall: Black Heath; near Ditton, on Moulsey Hurst, over against Hampton Court. [Common, near Chace Water Mine, Cornwall. Mr. WATT.] P. Aug.—Sept.

S. Root solid; flowers nearly upright, without floral leaves; bifolia.
root-leaves 2, spear-shaped.

Jacq. austr. 117—*E. bot.* 24—*Clus.* 184. 3—*Dod.* 219—*Fuchs.*
837—*Bauh. hist.* ii. 579. 2, 3—*Pet.* 67. 5.

(Flowering-stalk but little higher than the leaves, upright, cylindrical. Bunch inclined to branch. Flowers from four to ten on long fruit-stalks, E.) Leaves 2, rarely 3. Flowers in a bunch, mostly pointing one way. Blossom blue.

Two-leaved Squill. This is introduced in the English Botany on the authority of Buddle's Herbarium in the British Museum; but no particular place of growth is assigned. Jacquin tells us that it is found in islands of the the Danube, and in woods upon hills, flowering in March. (Received from the west of England by Mr. Scions of Norwich. *Fl. Brit.* E.) P. March—April.

S. Bunch of few flowers, furnished with floral leaves; verina.
blossoms bell-shaped; leaves from the root, strap-shaped, channelled; bulb-coated.

Dicks. h. s.—Fl. dan. 568—*E. bot.* 23.

(Bunch terminating, hemispherical. Flowers from three to six, seldom more, on fruit-stalks. Petals egg-shaped,

keeled. *Anthers* blue. E.) In its wild state the root-leaves are seldom more than two, and the flowers from four to six. *Floral-leaves* longer than the fruit-stalks. *Blossom* blue.

Vernal Squill. Meadows and pastures. Cliffs on the sea shore in Anglesea and Wales; about St. Ives, and other places in Cornwall. I have received specimens of it under the title of *S. bifolia*, but that species is not clearly ascertained to be a native of these islands. HUDSON. Gloddaeth, Caernarvonshire. [Cliffs on the Isle of Man. Mr. HALL.—Near Redruth, Cornwall. Mrs. WATT. Near Penzance.] P. May—June.

nutans.

S. Leaves strap-shaped; spike nodding; blossoms cylindrically bell-shaped; segments rolled back; floral-leaves in pairs.

E. bot. 337—*Curt.* 139—*Clus.* i. 177. 1—*Dod.* 216. 1—*Lob. obs.* 53. 2—*Ger. em.* 111. 1—*Ger.* 99. 1—*J. B.* ii. 586—*Walc.—Park. par.* 125. 5—*Swert.* 13. 1, 2, 3, and 4.

Leaves from the root, limber. *Flowers* pendent, fine blue. The absence of the nectariferous pores on the germen, the very deep divisions of the blossom, almost forming six distinct petals, and the structure of the other parts of the fructification, (induce me to arrange this species under the genus *Scilla*. E.) The blossoms shrivelling and not falling off, and the ends of the petals being rolled back, seem to constitute the only observable differences. *Flowers* varying, as many blue ones are apt to do, to white or flesh colour. (*Leaves* many, keeled. *Flower-stalk* nearly a foot high, cylindrical, upright. *Stamens* growing on the petals, thread-shaped.

Wild Hyacinth. Hare-bell Squill. *Hyacinthus non-scriptus*. Linn. With. Ed. 4. *Scilla nutans*. E. bot. and Fl. Brit. Woods and hedges. P. May. E.)*

ANTHERICUM. *Bloss.* 6 petals, expanding, caps. oblong, superior, 3-celled.

serotinum. *A.* Leaves flattish above, convex underneath; stalk with 1 to 4 flowers; upper floral-leaves decurrent, bent inwards.

Jacq. austr. app. 38—*E. bot.* 793—*Ray* 17. 1. at p. 474—*J. B.* ii. 665. 1.

* The fresh roots are poisonous. They may be converted into starch. —*Phalena Plantaginis* lives upon it.

Root oblong, covered with scales, the remains of dead leaves. *Stalk* with three or four sheathing floral-leaves, spear-shaped, very minute, alternate. No flower-sheath. *Petals* with tawny lines and yellow claws. *Filaments* not woolly. LINN. *Blossom* permanent.

I am indebted to J. W. GRIFFITH, Esq. of Garn, near Denbigh, for the above specific character, and also for the following description of this rare and almost inaccessible species.

Plant from four to eight inches high. *Root* a club-shaped, bent bulb, covered with white laminated membranaceous scales. *Leaves* 2, strap-awl-shaped, very slender, bending downwards, often longer than the stalk. *Stalk* with three or four floral-leaves, spear-awl-shaped, the upper ones decurrent, bent inwards, the lower ones sheathing, slanting outwards. *Flowers* from one to four, but most frequently single. *Petals* 6, oblong, expanded, permanent, veined, white within, keel dull pink with a tinge of green. *Germen* obscurely triangular. *Summits* triangular, lopped.

Mountain Saffron. Saffron Spiderwort. On high mountains, as on Snowdon, and on the mountains in the neighbourhood of Llanberrys on the west side of Trigvyllchau. RAY.—On Crib y Ddeseil rocks near Llanberris, in inaccessible situations, rare; also on the most inaccessible rocks above Lynn Idwell, Caernarvonshire, very near Tŷll dŷ in the greatest abundance. HUDS. P. June.

NARTHECIUM. *Bloss.* 6 petals, permanent:
style none: *caps.* egg-shaped: *seeds* tapering
to each end.

N. HUDS.

ossi'fragum.

Dicks. h. s.—E. bot. 535—*Fl. dan.* 42—*Clus. i.* 198. 1—*Dod.* 208. 2—*Lob. obs.* 47. 1—*Ger. em.* 95. 2—*J. B. ii.* 633. 2—*H. or. iv.* 1. 7.—*Pet.* 66. 9.

Stem ascending, cylindrical, four to nine inches high. *Root-leaves* strap-spear-shaped, flat, scored; crooked *stem-leaves* lying close to the stem. *Flower-scales*, two to each fruit-stalk, spear-shaped, alternate, concave. *Petals* strap-spear-shaped, a little concave, greatly expanding, greenish on the outside, of a full yellow within. *Filaments* woolly, yellow. *Anthers* scarlet.

Lancashire, or Bastard Asphodel. *Anthericum ossi-fragum.* *Asphodelus Lancastriæ.* *Ger. em.* 96. n. 2.—(*Leaves* sword shaped. *Filaments* woolly. LINN. E.)—Turf bogs. [Dersingham Moor, Norfolk. Mr. CROWE.—Bog

in the North, very common. Mr. WOODWARD. Needwood Forest. Birmingham Heath.] (In Moreton Moors, three miles from Blymhill, Shropshire. Rev. S. DICKENSON. E.)

P. July—Aug.*

ASPARAGUS. *Bloss.* with 6 divisions, upright: the tops of the 3 inner petals reflected: *berry* superior; 3-celled: *seeds* 2.

officina'lis.

A. Stem herbaceous, cylindrical, upright; leaves bristle-shaped; leaf-scales solitary or in pairs; male and female flowers sometimes on distinct plants.

Kniph. 6—*Ludw.* 78—*Fl. dan.* 505—*Mill.* 55—*Sheldr.* 83—*E. bot.* 339—*Matth.* 477—*Fuchs.* 58—*Trag.* 222—*J. B.* iii. 726. 1—*Ger.* 949.* 1—*Blackw.* 332—*Clus.* ii. 179—*Dod.* 703. 1—*Lob. obs.* 458—*Ger. em.* 1110. 1—*Park.* 454. 3—*par.* 501. 6—*Lonic.* 141. 2.

Stems herbaceous, upright, paniced. *Leaf-scales* the outer solitary, with two smaller ones within, from between which rise three, and sometimes four and five strap-shaped *leaves*. This is the case in the upper part of the branches where there are no flowers, but in the lower part of the branches a small branch rises in their stead. *Fruit-stalks* in pairs, limber, bearing one flower, pendent with a jointed knot. *Blossom* bell-shaped; inner petals longer. In the cultivated varieties the male and female flowers are not on distinct plants. LINN. The flowers are either male, or female, or hermaphrodite. *Seeds* from one to three. *Blossom* yellowish green. *Berries* red.

Common Asparagus. *Sparagus*, corruptly, *Sparrowgrass*. *Sperage*. Meadows and rocks on the sea coast. Lizard Point. Gravesend, and in the marshes below Cook's Folly, two miles from Bristol; about Harwich and Greenwich. RAY.—Isle of Portland. HUDS. In the Salt Marshes below King's Weston, near Bristol, with Dr. BROUGHTON. ST. Mullion Island, near the Lizard Point.] P. July.†

* It is believed in Sweden to be noxious to sheep, and has been supposed to soften the bones of animals that eat it, but this opinion wants confirmation. Cows and horses eat it. Sheep and swine refuse it.

† The young shoots of this plant, in its cultivated state, are very universally esteemed for their flavour and nutritious qualities. They impart to the urine the scent of water in which they have been boiled.—The *Sparagus Chrysomela* lives upon it.

CONVALLA'RIA. *Bloss.* 6-cleft: *berry* 3-celled,
superior: *seeds* 2.

(1) *Blossoms bell-shaped.*

C. stalk naked; semi-cylindrical, flowers spiked, nodding. *maia'tis.*

* *Curt.* 302-*E. bot.* 1035-*Abbot. Fl. Bed.* p. 76-*Ludw.* 87-*Kniph.* 10-*Blackw.* 70-*Kniph. i.*-*Matth.* 875-*Sheldr.* 25-*Fl. dan.* 854-*Ger.* 331. 2-*Pet.* 44. 7-*Park.* 251 1-*H. or.* xiii. 4. 1-*Ger. em.* 410. 2-*Dod.* 205. 1-*Lob. obs.* 87. 1-*Ger. em.* 410. 1-*Walc.-Ger.* 331. 1-*Fuchs.* 241-*J. B.* iii. 531. 3-*Trag.* 572-*Lonic. i.* 183. 2.

Leaves elliptical, generally two. *Flowers* few, growing from one side. *Fruit-stalks* arched. *Flower-scales*, one at the base of each fruit-stalk, spear-shaped, membranaceous. *Blossom* contracted at the mouth; segments reflected at the edge. *Berries* red. Mr. WOODWARD. *Blossom* white; highly fragrant. LINN.

Lily of the Valley. May Lily. Lily Solomon's-seal. Woods and heaths. Near Hampstead. [Castle Eden-deane. Mr. STEPH. ROBSON. Common in moist woods in Craven, Yorkshire. Mr. CALEY. Woods in Norfolk. Mr. CROWE. Rowdsey Wood, Cartmel, plentifully. Mr. JACKSON. (Between Bidston and Woodside, Cheshire. Dr. BOSTOCK. E.) P. May.†

(2) *Blossoms funnel-shaped.*

C. Leaves in whirls.

verticilla'ta.

E. bot. 128-*Clus. hist. i.* 277. 1-*Lob. ic.* 805. 1-*Dod.* 345. 2-*Ger. em.* 903. 2-*Fl. dan.* 86.

Leaves strap-spear-shaped, sitting, mostly in whirls. *Fruit-stalks*, axillary, from one to three flowers on each. *Blossom* yellow white, nearly cylindrical. *Berry* red when ripe; in its unripe state marbled, but never blue. Mr. BROWN.

[In the Den of Rechip, four miles N. E. of Dunkeld, Perthshire, chiefly towards the head of the Den. First discovered there by Mr. G. Don of Forfar, and not by A. Bruce, Esq. as is erroneously asserted in *E. bot.* Mr. BROWN.] P. June-Aug.

† The flowers highly fragrant, but when dried of a narcotic scent. Reduced to powder they excite sneezing. An extract prepared from the flowers, or from the roots, partakes of the bitterness, as well as of the purgative properties of aloes. The dose from 20 to 30 grains. A beautiful and durable green colour may be prepared from the leaves by the assistance of lime. Sheep and goats eat it. Horses, cows, and swine refuse it.

Polygona-
tum.

- C. Leaves alternate, embracing the stem; stem 2-edged; fruit-stalks axillary, mostly 1-flowered.

Kniph. 3—*Ludw.* 47—*Fl. dan.* 357—*E. bot.* 280—*Woodv.* 44—*Clus.* 1. 276. 1—*Dod.* 346. 1—*Ger. em.* 904. 3—*J. B.* iii. 529. 2—*Park.* 696. 3. *fig.* 1st.—*H. ox.* xiii. 1. 4—*Pet.* 44. 6—*Barr.* 711. 1—*Blackw.* 251. 2—*Ger.* 756. 1.

Flowers, sometimes two, on long fruit-stalks, hanging down on the side opposite to the direction of the leaf; white with a green line running down each segment; segments rather bent in. *Berries* black. **WOODWARD.**

Sweet Smelling Solomon's-seal. Fissures of rocks near Wherf, and Skipton, Yorkshire. [Rocky part of Syke's Wood, near Ingleton, Yorkshire. Mr. CALEY.] (Lately found near Yarmouth, Norfolk, by Mr. WIGG. *Fl. Brit.* Coppices about Alderbury, Wilts. Dr. MATON. Rock near the sea at Tenby. Countess of AYLESFORD. E.) P. May—June.*

Var. 2. Solomon's Seal with white Hellebore leaves and a purplish stalk. **RAY.**

Woods on the north of the Mendip Hills. *ib.*

multiflo'ra.

- C. Leaves alternate, embracing the stem; stem cylindrical; fruit-stalks axillary, many-flowered.

E. bot. 279—*Mill.* 101. 1—*Walc.—Fl. dan.* 152—*Fuchs.* 585—*J. B.* iii. 529. 1—*Lonic.* i. 170. 3—*Clus.* i. 275. 2—*Dod.* 345. 1—*Lob. obs.* 368. 2—*Ger. em.* 903. 1—*Park.* 696. 3—*H. ox.* xiii. 1. row 3. 1—*Pet.* 44. 5—*Blackw.* 251. I. 1, 5, 7—*Trag.* 399—*Matth.* 954—*Ger.* 756, 3.

Fruit-stalks branched, usually with two flowers above, three lower down, frequently four at bottom, and in gardens more. *Flowers* smaller, and segments more pointed than in *C. Polygonatum*, white tipped with green. *Berries* when ripe, black. **WOODWARD.** (Mr. Dawson Turner finds this plant with peduncles often bearing only one, and seldom more than two flowers, yet sufficiently distinguishable by its cylindrical stem and the shape of its leaves. E.)

Common Solomon's-seal. Woods. Bramdean, Hampshire; Roehill, Kent; about High Wickham, Bucks. [Copse at Gorsestone, Suffolk. Mr. WIGG. Woods at Bigland Hall, Carmel, plentiful. Mr. JACKSON. In the lane between Stockton

* In a scarcity of provisions the roots have been made into bread. Sheep and goats eat it. Horses, cows, and swine refuse it.

and Stainton, Yorkshire. Mr. ROBSON.] (In the pits called Lily Pits, at Bradwell, Suffolk. Mr. WIGG, in *Bot. Guide*. E.)
P. May—June.*

Var. 2. *Dwarf English Solomon's-seal*. RAY. Woods in Wiltshire. *ib*.

A'CORUS. *Spadix* cylindrical, covered with florets: *bloss.* 6 petals, naked: *style* none: *caps* 3-celled.

A. Floral-leaf very much longer than the spike.

Calamus.

E. bot. 356—*Fl. dan.* 1158—*Ludw.* 34—*Woodv.* 173—*Kniph.* 9—*Leers.* 13. 12—*Blackw.* 466. *Clus.* i. 231. 2—*Dod.* 249. 3—*Ger. em.* 62. 1—*Park.* 140—*J. B.* ii. 734—*H. ox.* viii. 13. 4—*C. B. th.* 626—*Dod.* 249. 2—*Lob. obs.* 30. 1—*Ger. em.* 62. 2—*Clus.* i. 231. 1—*Lob. obs.* 30. 2.

Spike about three inches long, closely studded with florets set in spiral lines. Mr. STACKHOUSE. *Root* half to one inch diameter, often one foot and a half long or more, sending out a number of long coarse fibres. The old one decays every year, but two young ones shoot out from the crown of it. *Stem* flattened, bordered with a leafy edge, and above the insertion of the spike expanding into a leaf. *Leaves* sword-shaped, sheathing one another, some plaited in a serpentine line. *Spike* proceeding from the edge of the leaf. *Petals* skinny, thin, crowned with a kind of horizontal hat.

Myrtle Flag. *Sweet Smelling Flag*, or *Calamus*, *Sweet Myrtle-grass*. Banks of rivers with a muddy bottom. River Yare, near Norwich. Hedley in Surrey, in Cheshire, near Cambridge, Hounslow Heath, near Harefield. [River Waveney, near Bungay, Suffolk. Mr. WOODWARD.—River Avon, near Pershore. Mr. BAL-LARD.—River at Tamworth, at the bottom of M. Oldershaw's garden. Marshes near Glastonbury.]
P. May—June.†

* The young shoots are eaten by the Turks as *Asparagus*, and the roots have been made into bread as those of the *C. Polygonatum*. LINN. Cows, goats and sheep eat it.

* The roots powdered might supply the place of our foreign spices. It is our only native truly aromatic plant. LINN. The powder of the root has cured agues when the Peruvian Bark has failed. The roots have a strong aromatic smell, and a warm, pungent, bitterish taste. The flavour is greatly improved by drying. They are commonly imported from the Levant, but those of our own growth are fully as good. The Turks candy the roots, and think they are a preservative against contagion. Neither horses, cows, goats, sheep, or swine will eat it. (Dr. Swediaur recommends it either in the form of extract, (dose half a drachm,) or candied, in dyspeptic cases. E.)

TAMUS. Flowers male and female on different plants.

Calyx with 6 divisions: *bloss.* none.

Fem. style 3-cleft: *berry* 3-celled; beneath: *seeds* 2.

commu'nis. T. Leaves heart-shaped; undivided.

Mill. ill.—*Blackw.* 457—*Giseck.* 22—*E. bot.* 91—*Dod.* 401—*Lob. obs.* 344; *ic. i.* 625. 1—*Ger. em.* 871—*Park.* 178. 6—*J. B. ii.* 148—*H. ox. i.* 1. 6—*Ger.* 721, 1—*Matth.* 1285—*Gars.* 182—*Cam. epit.* 988.

Root very large. *Stems* twining. *Leaves* varying from kidney to heart, heart-spear, and triangular spear-shaped, and even to halberd-shaped. *Blossoms* greenish. *Berries* red.

Lady-seal. Black Briony. Thickets and hedges. P. June.*

JUN'CUS. *Husk* 2 leaves: *calyx* 6-leaved, permanent: *bloss.* none: *caps.* superior, 3-celled, 3-valved, many-seeded; or else 1-celled, and 3-seeded.

(1) *Straw naked.*

tri'fidus. J. *Straw* terminated by 3 leaves and from 1 to 4 flowers.

Dicks. h. s.—*E. bot.* 1482—*Lightf.* 9. 1. at p. 186—*Jacq. hort.* 4. 1—*Fl. dan.* 107—*C. B. pr.* 22. 2, *th.* 185. 2—*Park.* 1195. 3—*J. B. ii.* 521. 1.

Flowers from one to four: the former number most common, the latter more rare. Mr. BROWN.]

Trifid Rush. Three-leaved Rush. Bogs on the summit of the Highland mountains. [On the mountains about Invercauld copiously; on those of Perthshire more sparingly. Mr. BROWN.

P. June.

conglomeratus. J. *Straw* stiff and straight; flowers in a lateral, head; egg-shaped, blunt, 3 stamens in each.

Fl. dan. 1094—*E. bot.* 835—*Matth.* 1036—*Leers.* 13. 1—*J. B. ii.* 520. 2—*H. ox. viii.* 10. 7—*Park.* 1191. 3.

* The young shoots are good eating when dressed like asparagus. The root is acrid and stimulating. Horses will not eat this plant.

Stamens always three. *Seeds* kidney-shaped.

Round-headed Rush. Moist meadows and heaths.

P. July—Aug.*

J. Straw stiff and straight; panicle lateral, loose; flowers effu'sus. egg-shaped, blunt, 3 stamens in each.

Fl. dan. 1096—*E. bot.* 836—*Leers.* 13. 2—*Dod.* 605. 2—*Lob.* 43. 2—*Ger. em.* 35. 1—*H. ox.* viii. 10. 4—*Park.* 1191. 2—*J. B.* ii. 521. 1—*C. B. th.* 182.

The loose *panicle* of this plant at once distinguishes it from the preceding, whose flowers form a close compact head.

Soft Rush. *Common Rush*. *Seaves*. Wet meadows and pastures.

P. June—Aug.†

J. Straw stiff, crooked and somewhat membranaceous at the end; panicle lateral, spreading; flowers egg-shaped, but tapering to a point. inflex'us.

E. bot. 665—*Fl. dan.* 1159—*Leers* 13. 3—*Ger.* 31. 2—*C. B. th.* 184—*H. ox.* viii. 10. 25—*H. ox. ib.* 13—*Dod.* 605. 3—*Lob. obs.* 43. 3—*Ger. em.* 35. 4—*Barr.* 204—*J. B.* ii. 520. 1.

Straw scored, glaucous green. *Sheath* at the base of the straw of a dark red chesnut colour, spear-shaped but blunt at the end. *Panicle* bay colour, more upright and more diffuse than in the preceding.

Hard Rush. *J. effusus* β of Haller and Hudson, but certainly very distinct. *J. glaucus*. Sibth. Fl. Oxon. and Fl. Brit. Pastures and road sides in a moist soil.

P. July.

J. Straw crooked, slender, thread-shaped; panicle lateral, filifor'mis. not branched, few-flowered.

Smith Spicileg. iii.—*E. bot.* 1175—*Leers* 13. 4—*Scheuch.* 7. 11—*Pluk.* 40. 8.

So slender as hardly to support itself. *Panicle* not always expanded. *Florets* about 5.

Least Rush. Turfy bogs on mountains. Not far from Ambleside. RAY.—[At Windermoor, in Cartmel. Mr. JACKSON.] (Near Derwent Water, Cumberland, and on Ben Lawers, in Scotland. DICKSON, E.)

P. Aug.

* Used to make wicks for watch lights, and the pith for toys.

† Rushes are sometimes used to make little baskets. The pith of this and the preceding species is used instead of cotton to make the wicks of candles which are called rush-lights. Horses and goats eat it.

squarro'sus. J. Straw rigid; leaves like bristles; panicle terminating; leafless.

E. bot. 933—*Fl. dan.* 430—*H. ox.* viii. 9. 13—*Park.* 1193. 2.

From 8 to 18 inches high. *Root-leaves* numerous, unequal in length, the longest nearly half the length of the straw.

Moss Rush. Goose Corn. Barren turfy bogs on heaths.

P. June—July.*

acu'tus. J. Straw nearly leafless, cylindrical, sharp-pointed; panicle terminating; involucre 2-leaved, ending in a thorn-like point; (capsules roundish, sharp-pointed. *Fl. Brit. E.*)

E. bot. 1614—*Barr.* 203. 2—*C. B. pr.* 21. 2, *th.* 173—*Park.* 1193. 4—*H. ox.* viii. 10. 15.

Panicle crowded, close, from 2 to 3 inches long. *Involucre*, the sheath of the *outer leaf* from one or one and a half to two inches long, terminating in a stiff pungent leaf, one or one and a half inch long; that of the *inner leaf* about one inch long, terminating in a sharp point about half an inch long. SCHEUCH. (*Straw* three feet high, smooth, straight, and stiff. *Seeds* many. *E.*)

Pricking large Sea-rush. Sand hills on the sea coast of Merionethshire. RAY.—(At Brancaster, Norfolk. Mr. CROWE.—At Holker, Lancashire. Mr. WOODWARD.—At Instow, Devon, and Braunston Burrows. Rev. Dr. GOODENOUGH. *E.*)

P. May—July.

(*maritimus*. J. Straw naked, cylindrical; panicle terminating, proliforous; involucre 2-leaved, ending in a thorn-like point, upright; capsules oblong. *Fl. Brit. E.*)

E. bot. 1725—*Park.* 1193. 7—*H. ox.* 8. 10. 14.

Panicle not spreading, from 3 to 6 inches long, consisting of two principal branches, one of which is from 3 to upwards of 6 inches long, the other very short, immediately dividing into lesser branches. *Involucre*, the sheath of the *outer leaf* about one inch long, terminating in a very sharp pointed pungent leaf from 3 to upwards of 6 inches long; that of the *inner* about half an inch long, ending in a finely tapering leaf from half to one inch long. SHEUCH. *Involucre* leaves extremely rigid and sharp. Grows in tufts near 6 feet high. WOODWARD. (A lower and

* Horses eat it. The leaves lying close to the ground elude the stroke of the scythe. It indicates a barren soil.

more slender plant than the *J. acutus*, of a more glaucous green. Leaflets of the calyx spear-shaped. Capsules prism-shaped, strap-oblong, not roundish. *Fl. Brit.*

Juncus acutus β. Linn.—With. Ed. 4. In making this variety a new species I follow the example of Dr. Smith, and the opinion of the celebrated Roth.

Lesser sharp Sea-rush. Sea Hard-rush. Salt marshes of Essex and Wales. RAY.—Coasts of Norfolk and Lancashire.—Sea coast near St. Andrews. Mr. MACKAY. P. July—Aug. E.)

(J. Leaves with knotty joints, compressed; stem without lampocar'pus. joints; panicle compound, erect, elongated; inner calyx-leaves bluntish, bordered; capsule coloured, varnished.

E. bot. 2143—*Leers* 88. t. 13. f. 6—*Fl. dan.* 1097—*Leers* 13. 6—*H. ox.* viii. 9. 2. f. 9, the 3 right hand straws—*C. B. pr.* 12. 1, th. 76. 2—*Park.* 1270. 5—*Ger. em.* 22. 9—*J. B.* ii. 521. 2—*Ger.* 12. 1.

Stem not internally jointed, hollow, bearing from 3 to 6 leaves, usually 4 or 5, which are compressed and copiously jointed. Panicle branches strong, elongated, so that the heads of flowers are remote, one above another on each simple branch. Capsule remarkable for its great size, dark chocolate hue, and highly polished surface. *E. bot.* and *Linn. Trans.*

When *J. lampocarpus* happens to flower late in the season, so as not to perfect its large and polished capsules, it may be distinguished by a disposition to become viviparous, and branching at the joints—a property which I never observed in either of the other two species. Rev. H. DAVIES.

Shining-fruited Jointed Rush. Common in moist pastures. Named and characterized as above by Ehrhart, and by Mr. Davies, in *Linn. Trans.* v. 10. *J. articulatus*. var. 1. *Leers.* With. Ed. 4. *J. compressus*. Relhan, Sibthorp, Abbot.

P. June—Aug. E.)

(J. Leaves with knotty joints, slightly compressed; stem acutiflorus. without joints; panicle repeatedly forked, dense; calyx-leaves all sharp-pointed.

E. bot. 238—*H. ox.* viii. 9. 1. f. 8.

Three or four leaves on the stem. Plant sometimes 3 feet high. Mr. DAVIES.

Sharp-flowered Jointed Rush. J. articulatus, Relhan, ditto var. 2. With. Ed. 4. *J. nemorosus*, Sibthorp. P. Aug.

This, the preceding, and following newly ascertained species are liable, from the attacks of insects, to assume a peculiar appearance, producing bundles of slender leaves instead of, or intermixed with, the flowers. Thus they are represented in *C. B. pr.* 12. 2. and *th.* 77—*H. ox.* viii. 9. 2. *f.* 9.

The insects found upon these plants have been the *Chermes graminis*, *Acarus gymnopteronum* and some of the *Coccus* tribe. The diseased plants are very common in the bogs on Birmingham Heath, and also in those of the New Forest, where the soil is gravelly. E.)

(obtusiflorus. *J.* Leaves and stem with knotty joints, cylindrical; panicle repeatedly compound; its branches divaricated and reflexed; calyx-leaves obtuse, as long as the capsule.

E. bot. 2144.

Easily distinguished by its pale, entangled, much branched panicles, whose ultimate branches are strongly reflexed. Stem and leaves internally jointed. Stem with only two leaves, notwithstanding its tallness. Leaves not compressed. Calyx-leaves with a broad membranous edge. Capsule light brown, shining. *E. bot.* and *Linn. Trans.*

Blunt-flowered Jointed Rush. First discriminated as a species by Ehrhart abroad, and by the Rev. H. Davies in this country. *J. articulatus* β. *Fl. Brit.* ditto var. v. With. *Ed.* 4. Not common. Marshes at Limpenhoe, Norfolk. Rev. G. R. LEATHES. P. Aug. E.)

(2) *Straws leafy.*

uliginosus. *J.* Straws trailing, proliferous from the heads of flowers; leaves like bristles, somewhat knotted.

E. bot. 801—*Fl. dan.* 817—*H. ox.* viii. 9. 4—*Scheuch.* 7. 10—*Pluk.* 32. 3.

This is now made a distinct species by Gmelin, consistently with the opinion of Haller and Ray, and on the authority of Roth. *fl. germ.* p. 155, but I have not seen that book. The knots or rather valves of the leaves in some of my specimens are just observable, but in others they are not to be seen though carefully searched for.

Little Bulbous Rush. The former grows in the bogs on Birmingham Heath, and I have always considered it as a variety of the *J. articulatus*; the latter was sent me without a habitat, and was supposed to be a viviparous variety of the *J. bulbosus*.

(P. June—July. E.)

J. Straw undivided, somewhat compressed; leaves strap-shaped, channelled: panicle terminating, shorter than the floral-leaf; cups and capsules blunt. bulbo'sus.

E. bot. 934—*Leers* 13. 7—*H. ox.* viii. 9. 11—*J. B.* ii. 522. 3—*Fl. dan.* 431—*Barr.* 114. and 747. 1 and 2.

(Root creeping, fibrous, never bulbous. *Fl. Brit. E.*) From 2 inches to 2 feet high. *WOODWARD.* Ripe capsules longer than the calyx.

Bulbous Rush. Round-fruited Rush. Wet meadows and heaths. [Sea coast. Salt water ditches near Yarmouth. Mr. *WOODWARD.*] (By the Long Walk, Windsor, plentifully. Rev. Dr. *GOODENOUGH.*—Marshes near Walthamstow. Mr. *E. FORSTER.* P. July—Aug. *E.*)

J. Straw forked; flowers solitary, sitting; calyx leaflets spear-shaped, sharp-pointed; capsule egg-shaped, shorter than the calyx. bufo'nus.

Fl. dan. 1098—*Dicks. h. s.*—*E. bot.* 802—*Leers* 13. 8—*H. ox.* viii. 9. 14—*Ger. em.* 4. 4—*Ger.* 4. 4—*Park.* 1190. 8—*Barr.* 263. 1, 2, and 264—*Rose* 2. 5 and 6, and *Pet. gaz.* 51. 7, in its seedling state—*Park.* 1270. 11.

It varies very much in size, from 1 to 10 inches high; and in the smaller plants the leaves are very slender, not angular but folded together. The flowers are mostly in pairs, and only one sitting, but in all of them the ripe capsules are brown, shining, and shorter than the calyx.

Toad Rush. Wet gravelly or sandy meadows and pastures, especially in places that have been overflowed in the winter, not uncommon. P. May—Aug.

J. Leaf awl-shaped; husk 2-flowered, terminating; inner floret standing on a fruit-stalk. biglu'mis.

E. bot. 898—*Fl. dan.* 120—*Amoen. acad.* ii. 3. 3.

The blunt capsules and the fruit-stalk with which the inner flower is always provided are invariable characters in this species. Mr. *BROWN*; (to which Dr. *Smith* adds as equally decisive, the one flower being placed above the other. *E.*) From 2 to 4 inches high. Leaves few, one third the length of the straw. Outer leaf of the husk much larger than the other, and ending in a pointed substance as long as itself and standing higher than the florets.

Two-flowered Rush. [In bogs on the top of Mal-ghyrdy, a mountain between Glenloch and Glenlyon, and upon Ben

Teskerney, both in Breadalbane. On Craig Cailleach, and on Ben Lawers, precisely in the same situations, but not quite so common as *J. triglumis*. Mr. BROWN.] P. Aug.

triglu'mis. *J.* Leaves awl-shaped, hollow; husk mostly 3-flowered, terminating; florets all sitting.

Dicks. h. s.—*E. bot.* 899—*Fl. dan.* 132—*Lightf.* 9. 2—*Fl. lapp.* 10. 5—*H. ox.* viii. 12. 40.

(This plant may be always known by bearing the flowers erect and parallel to each other, not leaning to one side, nor overtopping the other. It is likewise considerably larger than *J. biglumis*. *E. bot.* *E.*) I have been favoured with specimens from J. WYNNE GRIFFITH, Esq. in which the heads contain 2, 3, and 4 flowers.

Var. 2. Bractea elongated and pointed.

Occasionally found growing with the more common variety, from which it differs in no respect but in the greater length of the Bractea. Mr. BROWN.

Three-flowered Rush. Bogs on mountains. On Trygvylechau, near Llanberrys, and Llyn y Cwn, near Snowdon; East side of Craig-Cailleach above Finlarig, Breadalbane, &c. See *Lightf.* p. 1120. [In the ascent from Llanberris to Glyder, only in one small spot which lies between a little eminence called Bryn brâs, and a rivulet called Avon lûs. Mr. GRIFFITH.—On Ben Lomond. Dr. HOPE.—Burrowdale, near Keswick, Cumberland, and frequently with only 2 flowers. Mr. ROBSON.] P. June—Aug.

(*casta'neus*. *J.* Leaves flat, embracing the stem; terminating head most frequently double, many-flowered, leafy at the base; floral-leaves sharp-pointed.

E. bot 900.

Straw upright, from a span to a foot high, cylindrical, leafy. *Leaves* all stem-leaves, alternate, upright, flat, strap-shaped, sharp-pointed; widening below, embracing and sheathing the stem. *Terminating heads* two, one above the other, sometimes only a single one, dark-brown, shining, often four and even six or eight-flowered, rarely three-flowered. *Floral-leaves* one under each flower, a short distance from the calyx, strap-spear-shaped, acute, brown. *Leaflets of the calyx* spear-shaped, acute, with three fibres on the back. *Stamens* six, hair-like, white, as long as the calyx. *Anthers* terminating, strap-shaped, yellowish brown. *Summits* strap-shaped, flat. *Capsule* egg-oblong, blunt, black at the apex, slightly awn pointed, twice the length

of the cup, 3-celled. *Fl. Brit.* The seeds terminate in a slender appendage at each end, as in *Narthecium ossifragum*. *E. bot.*

This plant most nearly resembles the *J. Jacquini*, but on comparison differs in many respects.

Clustered Alpine Rush. In a micaceous soil on the mountainous marshes of Scotland. On Ben Lawers. Mr. DICKSON. and Mr. MACKAY. *Fl. Brit.* P. July. E.)

J. Leaves flat, hairy; corymbus branching. LINN. Flow-ers solitary. HUDS.

E. bot. 736—*Curt.* 345—*Leers* 13. 10—*H. ox.* viii. 9. row 1. 1. f. 3—*Ger. em.* 19. 1—*Park.* 1184. 1—*Ger.* 17. 1—*C. B. th.* 101.

Lower branches of the panicle bent downwards.

Hairy Rush. Woods common. P. April—May.

(J. Leaves flat, hairy; panicle tufted, upright; flowers solitary; capsules sharp-pointed. SMITH.

E. bot. 1293.

Root fibrous, black, scarcely stoloniferous. *Straws* from a span to a foot high, upright, undivided, slender, cylindrical, smooth, leafy. *Leaves* strap-spear-shaped, sharp-pointed, twice or thrice as narrow as those of *J. pilosus*; hairy at the edge towards the base: the upper ones larger, the root-leaves very small. *Panicle* terminating, tufted, branched, all the branches upright, never straddling or bent back. *Flowers* like those of *J. pilosus*, but the segments of the cup far more pointed. *Capsules* gg-shaped, sharp-pointed, not blunt at the end. *Fl. Brit.*

Certainly a new and very distinct species: continuing unchanged in a garden.

Narrow-leaved Hairy Rush. In Woods under trees between Hoggill and Collier Row in Hainault forest, Essex, along with *J. pilosus*, first observed by Mr. EDWARD FORSTER, junr. in 1795.—In a wood opposite to the south front of Hafod House, Cardiganshire. *Fl. Brit.* P. May. E.)

J. Leaves flat, hairy; panicle terminating, very much branched; flowers 1, 2, or 3 together.

E. bot. 737—*Curt.* 344—*Fl. dan.* 441—*H. ox.* viii. 9. row 1. 2. f. 4—*J. B.* ii. 403. 2—*C. B. pr.* 15. 1, & *th.* 102—*Park.* 1185. 3—*H. ox.* viii. 9. row 1. f. 5, between 2 and 3.

Three or four feet high. *Root-leaves* half an inch or more in breadth. Mr. SWAYNE. The flowers not being solitary, but mostly in pairs, will readily mark the difference between this and the preceding species.

Wood Rush. J. sylvaticus. HUDS. CURT. E. bot. Bot. Arr. ed. ii. Fl. Brit. Woods and hedges, near Hampstead. [Whitsell Gell, near Askrig, Yorkshire, and at the bottom of the Rye-loaf near Settle. CURTIS. Witchery Hole, near Clifton upon Teme, Worcestershire. Mr. BALLARD.—Common in Scotland, near rivulets and in woods. Mr. BROWNE.—Corby Castle, near Carlisle. Leighwood, near Bristol. Mr. SWAYNE.] (Knot's-hole, near Liverpool. Dr. BOSTOCK. E.) P. May—June.

campestris. J. Leaves flat, somewhat hairy; spikes sitting, on fruit-stalks.

Curt. 140—*E. bot.* 672—*Kniph.* 12—*C. B. pr.* 13. 2, and *th.* 103—*H. ox.* viii. 9. row 1. 4—*Leers* 13. 5—*J. B.* ii. 493. 3—*Ger. em.* 17. 2—*Park.* 1185. 6—*Ger.* 16. 2.

Spikes three or four, the central one sitting, the others on fruit-stalks of unequal lengths.

Field Rush. Pastures, meadows, and heaths, common.

P. April—May.

liniger. J. Panicle larger, more compact than in *J. campestris*; spikes globular; straw and leaves as long again. RAY.

H. ox. viii. 9. row. 1. f. 1, the left hand corner.—*Ger.* 16. 1—*C. B. th.* 104—*Park.* 1186—*J. B.* ii. 468. 2.

This uncommon species (Var. 2. *J. campestris* of the third edition) is much more hairy than the preceding, and at the base of the stem the hairiness looks as if some dressed flax adhered to the plant, whence I have named it *liniger*. The leaves are a quarter of an inch broad, but in the preceding not more than half that breadth. The flowers are much more numerous and closely compacted into globular heads, and it flowers a month later.—Mr. Caley noticed it three successive years bearing the same characters; he observes that *J. campestris* grows along with it, and attains its height, but is easily distinguished from it by its slender habit, and being destitute of the globular head.—Mr. Swayne says it flowers the latest of our leafy-stemmed rushes, and resembles the *J. campestris* the nearest, but still is very distinct.

Flaxen Rush. Turfy bogs. [Shortwood, near Pucklechurch, Gloucestershire, flowering the latter end of June. Mr. SWAYNE.] P. June.

spica'tus. J. Leaves flat; spike bunch-like, drooping; capsules pointed.

Fl. dan. 270—*E. bot.* 1176—*Fl. lapp.* 10. 4.

Very nearly allied to, if not a variety of *J. campestris*. LINN. I have seen the *J. campestris* growing with it, but they are perfectly distinct. Dr. SMITH. Five or six inches high. *Spike* terminating, pointing almost horizontally, about half an inch long.

Spiked Rush. [On the very summit of Ben Lomond. Dr. J. E. SMITH, and Dr. HOPE. On bare spots on mountains; often on their summits. On Ben Bourd near Invercauld; on all the mountains between Angus-shire and Dee side, and on all those of Breadalbane and Glenlochail. Mr. BROWN.]

P. July—Aug.

BER'BERIS. *Calyx* 6-leaved: *petals* 6, with 2 glands to the claw: *style* none: *berry* superior, 1-celled; open at the end: *seeds* 2 or 3.

B. Fruit-stalks forming bunches: thorns 3 together. vulgaris.

Fl. dan. 904—*Woodv.* 234—*E. bot.* 49—*Mill.* 63—*Blackw.* 165—*Fuchs.* 543—*Trag.* 993—*Clus.* i. 120. 2—*Dod.* 750—*Lob. obs.* 599. 2—*Ger. em.* 1325—*Park.* 1559—*J. B.* i. 6. 54—*Ger.* 1144—*Lon.* i. 46. 1.

The *first leaves* inversely egg-shaped, between serrated and fringed, not jointed. *Leaf-scales* terminated on each side by a hair-like tooth. *Stem-leaves* alternate the lowermost somewhat wing-cleft, with thorny teeth; the rest are changed into 3-forked thorns. The *secondary leaves* in pairs, oblong, serrated. Between the lowermost leaves and the thorns are concealed lesser leaves. Thus, when the leaves of the present year are changed into thorns, others will succeed to take place of them in the next. Is there any instance analogous to this? LINN. *sp. pl.* *Leaf-scales* solitary, 3-forked, changing into thorns. *Fl. suec.* In searching for the nectaries at the base of the petals when the flower is fully expanded, if the filaments be ever so slightly touched, the anthers immediately approach the summit and burst with an explosion. *Bot. arr.* ed. i.—When the anthers are thoroughly ripe, if the bottom of the filament be irritated with a pin, or a straw, the stamen rises with a sudden spring and strikes the anther against the summit of the pistil, affording a remarkable instance of one of the means used to perform the important office of impregnation. Mr. WHATELY, from Dr. SIMS. See also Phil. Tr. 1788.* *Blossom* yellow, sometimes streaked with orange. *Berries* red.

* This singular vitality of fibre (something more than mere elasticity,) which we denominate irritability, and which is particularly apparent in such plants as are called *sensitive*, has also excited the attention of that very ingen-

Common Barberry. Pipperidge-bush. Woods and hedges. On Chalk Hills. About Walden, Essex. (Frequent in Norfolk and Suffolk. Mr. WOODWARD. E.) S. May—June.*

nous experimentalist Kölreuter, who observes that the cells of the anthers do not split open lengthways, but that the outer coat detaches itself along the edges of the partition, which separates the two cells, and raising itself up with the greater portion of the pollen adhering to the inner surface, finally faces towards the stigma; having the inner surface that fronts the stigma covered with pollen. It is by this singular expedient that nature has so completely succeeded in her object of fecundation by the emission of pollen; for by this mode of opening of the anthers the stamens have gained so much in length, that they are enabled to reach with precision the stigma on which they are to discharge their contents; had the cells opened in the usual way the stamens would have been too short for their intended functions.

When a stamen has gone through this movement it draws the petal, to the base of which it is fixed, a little toward itself, and this is the reason that, when we have suddenly stimulated all the stamens of a flower that was before pretty much expanded, we see it become half closed again. The anthers are insensible to stimulus; the filaments evince most irritability nearest their bases. The phenomenon may be fully induced by a burning lens; and when the flowers are electrified, and sparks are drawn from them by the approach of a metallic body, the stamens immediately spring toward the pistil. If it could happen that during the season of bloom the flowers were to remain uninfluenced by adventitious stimulus the stamens would continue extended at their wonted distance from the pistil, and no fecundation could take place. But let us see the mean adopted by divine wisdom for ensuring the fecundation of this useful vegetable, each petal has near its base two oblong melliferous glands. Between every two of these glands a stamen is placed, so that whenever an insect (of which abundance present themselves in the course of a day, beetles, flies, bees and wasps, seeking their own food,) attempts to extract the honey exuded by the glands, it must touch, especially the lower and most irritable part of the filament, upon which this organ immediately springs up and proceeds to cover with its prolific dust the upper part of the pistil. *Annals of Botany. v. 2. E.)*

* The leaves are gratefully acid. The flowers are offensive to the smell, when near, but at a proper distance their odour is extremely fine. The berries are so very acid that birds will not eat them, but boiled with sugar they form a most agreeable rub or jelly. They are used likewise as a dry sweatmeat, and in sugar plumbs. An infusion of the bark in white wine is purgative. The roots boiled in lye, dye wool yellow. In Poland leather is dyed of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen a fine yellow, with the assistance of alum.—This shrub should never be permitted to grow in corn lands, for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as 3 or 4 hundred yards across a field. This very extraordinary fact merits further investigation, for, though credited in France as well as in England, Mr. Broussonet assured Dr. Smith from his own observations, that it was totally void of foundation. See *E. bot.* p. 49. What then could have given rise to such an opinion, so confidently asserted and so widely diffused? The first information I had upon the subject, was from an excellent botanist, a scrupulous observer of nature, whose accuracy could hardly be questioned, and of whose veracity I could not entertain a doubt. The year following I examined some wheat sown round a Barberry bush in this gentleman's garden, and found the greater part of the ears abortive.—Knowing a very sensible farmer in whose hedge rows the Barberry was a

FRANKE'NIA. *Calyx* 5-cleft, funnel-shaped: petals 5: *summit* with 3 divisions: *caps.* 1-celled, 3-valved.

F. Leaves strap-shaped, crowded, fringed at the base. læ'vis.

E. bot. 205—*Michel.* 22. 1—*Lob. adv.* 180. 3—*Ger. em.* 566. 3
—*Park.* 1680. 6—*Barr.* 714—*J. B.* iii. 703. 2—*Pet.* 10. 11.

A shrub with numerous branched, trailing stems. *Leaves* fleshy, egg-shaped, but the edges being rolled in they appear almost cylindrical with a groove underneath, flattened at the base. *Calyx* with five to seven ribs and as many teeth. *Petals* wedge-shaped, a little scalloped at the end. *Nectary* a fleshy scale, fixed to the base of each petal. *Style* cloven half way down into three segments. *Blossom* pinky red.

Smooth Frankwort. Salt marshes in a muddy soil. *Lovingland*, near Yarmouth. Isles of Sheppey and Thanet; *Essex*, *Sussex*, and *Kent*, common. [Near Yarmouth. Mr. CROWE.]
(At Southwick. Mr. BORRER. E.) P. July—Aug.

F. Leaves inversely egg-shaped, dented at the end, dusted underneath. pulveru-
len'ta.

E. bot. 2222—*Clus.* ii. 186. 2—*Dod.* 376—*Ger. em.* 566. 2—*Zanon.*
79—*Lob. adv.* 196. 2.

Stems lying flat, slender, branching; knots about a finger's breadth from each other. *Leaves* four at a joint, hoary underneath. *Flowers* in the bosom of the leaves. *MONT.* in *Zanon.* *Leaves* with very short hairs underneath, edges not rolled in, on short leaf-stalks. *Dr. STOKES.*

Dusty Frankwort. *Powdery Sea-Heath* (Very rare in Britain, but not uncommon on the shores of the Mediterranean. E.) Sea coast of *Sussex* between Bognor and Brighthelmstone.
A. July.

common plant, I enquired if he had ever observed the corn near those hedges to be any how particularly affected. His reply constitutes the first part of this paragraph.—(The village of Rollesby, in Norfolk, where Barberries abound, and wheat seldom succeeds, is called by the opprobrious appellation of Mildew Rollesby. This very perplexing effect has been attributed to the farina of the flowers of the Barberry, which is yellow, and resembles in some degree the appearance of the rust, or what is presumed to be the blight in its early state. It is, however, notorious to all botanical observers, that the leaves of the Barberry are very subject to the attack of a yellow parasitic fungus, larger, but otherwise much resembling the rust in corn. Is it not more than possible that the parasitic fungus of the Barberry and that of the Wheat may be one and the same species, and that the seed is transferred from the Barberry to the corn? *Annals of Botany.* v. 2. E.)

PE'PLIS. *Calyx* bell-shaped, rim 12-cleft: *petals* none, or 6 fixed to the cup: *caps.* superior, 2-celled; many-seeded.

Portula. P. Flowers often without petals.

Dicks. h. s.—*Curt.* 288—*Vaill.* 15. 5—*E. bot.* 1211—*Fl. dan.* 64—*Mich.* 18. 1—*Ger. em.* 614. 11—*Park.* 1260. 4—*J. B.* iii. 372. 3.

Stems numerous, creeping. *Leaves* inversely egg-shaped, sometimes tapering into leaf-stalks. *Petals* deciduous, very minute; both *blossom* and *filaments* pinky red.

Water Purslane. Marshy and watery places, especially such as become dry in summer. A. July—Sept.

TRIGYNIA.

RU'MEX. *Calyx* 3-leaved: *petals* 3, closing: *seed* 1, three-cornered, inclosed in the blossom.

(1) *Flowers hermaphrodite; petals entire, only 1-beaded'*
sanguin'eus. R. Valves very entire; leaves heart-spear-shaped.

Munt. brit. 113. and *phyt.* 196—*Pet.* 2. 5—*J. B.* ii. 989. 1—*Blackw.* 492—*Dod.* 650. 2—*Lob. obs.* 154, and *ic.* i. 290. 1—*Ger. em.* 390—*Park.* 1226. 10—*H. ox.* v. 27. 6.

Leaves with red veins containing a blood-coloured juice. *Outer valve* of the flower with a large red globular grain, and sometimes the other with a small grain. It migrated from Virginia to Hampstead in England. LINN. *Blossoms* reddish. *Leaves* unequal at the base.

Small-grained Dock Bloodwort. Bloody-veined Dock. Woods near Hampstead, but not frequent, and near Maidstone, Kent. B. July.

(2) *Flowers hermaphrodite; petals entire, all of them beaded.*
cris'pus. R. Valves strongly veined; leaves spear-shaped, acute, waved and curled at the edge.

Curt. 104—*E. bot.* 1998—*Munt. brit.* 104, and *phyt.* 190—*Ger.* 312. 4—*Pet.* 2. 2.

Grains on the valves very large, nearly round. Mr. Woodward. *Root* yellow. CURTIS. *Beads* one or three, rarely two.

Dr. STOKES. *Leaves* strap-spear-shaped. *Valves* large, brown red when ripe; beads pale when young, changing to blood red and then to brown red.

Curled Dock. Meadows, pastures, road sides, and cultivated ground. In almost all soils. P. June—July.*

R. Valves veinless; leaves oval spear-shaped, uneven at acu'tus. the edges.

Curt. 181—*Blackw.* 491—*Kniph.* 3—*Fuchs.* 461.

The edges of the leaves, though seldom very entire, are by no means waved and curled, as in the preceding species. The *valves* are much smaller than in any of our other hermaphrodite species; very entire, all of them beaded. In sunny situations, both the stem and leaves are apt to get a tinge of purple red. *R. sanguineus*, var. 2. Bot. arr. ed. ii. *Lapathum viride*. Ray Syn. 141.

Linnæus says, that in his *R. acutus*, the valves are toothed, which is not the case with our plant, but then his Synon. accord with ours, and with the *Lapathum acutum* of Ray, which he quotes. We must therefore either suppose the Synon. to be wrong, or else that the teeth of the valves are uncertain things. I have purposely avoided more references to figures, that of J. B. ii. 984. 1, being a wretched reduced copy of that of Fuchsius; Pet. ii. 3. is inexpressive; Lob. ic. 284. 1. Lob. obs. 150. 2. Park, 1224. 1. Ger. em. 388. 1. Matth. 353. 1. and Dod. 648. 1. are all the same, and therefore all equally bad, nor would the subject be illustrated by quoting the mutilated representation in H. ox. v. 27. 3. Lonic. i. 87. 1, is tolerable.

R. sanguineus var. β. Fl. Brit. Woods, hedges, sides of rivers and roads, and sometimes in fields and meadows, common.

P. June—July.†

R. Leaves heart-spear-shaped, bluntish; whirls of flowers paludo'sus. distinct; beneath the floral-leaf.

E. bot. 724—*Munt.* 194.

Root branching. *Stem* upright. four feet high, scored, branching. *Branches* alternate, upright. *Root-leaves* egg-shap-

* In Norfolk it is the pest of clover fields. Mr. WOODWARD.—The fresh roots bruised and made into an ointment or decoction cure the itch. The seeds have been given with advantage in the dysentery.—Cows, goats, and horses refuse it.

† Cows and horses refuse it. It is infested by the *Aphis Rumicis*. LINN.—The root is used by the dyers. It gives a great variety of shades, from straw colour to a good olive, and a fine deep green to cloths which have been previously blued. STOKES.

ed, bluntish, somewhat finely notched. *Stem-leaves* alternate, on leaf-stalks, somewhat finely notched, rather pointed, flat, naked, on short leaf-stalks. *Leaf-scales* sheathing, membranaceous. *Flowers* in whirls, on fruit-stalks. *Whirls* generally distinct. *Valves*, the outer with a large red grain; the rest with a small grain. HUDSON.

In the Bot. arr. ed. ii. this was suspected to be a variety of the *R. crispus*, but if it be not distinct, I now rather suppose it to be *R. acutus*, grown to a more than ordinary size. The valves are entire, all of them beaded, but in its younger flowering state, the bead appears only upon one or two of them. They have not the strongly veined texture of the *R. crispus*. In the smallness of the flowers, the distance of the whirls, and the position of the floral-leaves, it agrees with the *R. acutus*. The summits are fan-shaped and beautifully fringed, as they are in several of the species. (Dr. Smith rather believes this plant of Hudson may prove to be a variety of *Rumex aquaticus*. E.)

Marsh Dock. *R. acutus*, Fl. Brit. Fl. Cantab. Marshes and banks of rivers. [Near Tamworth.] P. Aug.

aqua'ticus.

R. Leaves spear-shaped, smooth, acute, very entire, tapering at the base; (lower leaves heart-shaped at the base. SMITH. E)

E. bot. 2104—*Munt. brit.* 1—*Munt. phyt.* 202—*Pet.* 2. 1—*Ger.* 311. 1—*J. B.* ii. 1—*Blackw.* 490.

(Seed large. *Leaves* rather glaucous. *Fl. Brit. E.*)—*Veins* of the leaves very strong, and nearly perpendicular to the mid-rib. *Root* white within, black without. *Stem* five or six feet high, furrowed. *Leaves* even at the base, a little toothed and waved at the edge; the lower ones to eighteen inches long. *Leaf-stalks* semi-cylindrical, those of the lower leaves sometimes fifteen inches long. *Fruit-stalks* encompassed a little below the middle with an indistant ring, in half whirls. *Whirls* from alternate sides of the stem and branches, surrounded by a skinny sheath. *Calyx* one leaf, with three divisions; segments spear-shaped, somewhat concave. *Valves* very slightly toothed, especially towards the base. *Teeth* becoming more and more evident as the seed ripens. *Beads* greenish white or purplish. *Summits* flat, fringed.

The beads of the valves are not very obvious in the flowering state, though becoming large and conspicuous as the seed ripens.

Great Water Dock. *R. hydrolapathum.* WITH. Ed. 4. Peat marshes, wet ditches, pools, and sides of rivers; growing gene-

rally in the water where it is shallow, and seldom but in the water. RAY. [About Clifton, Worcestershire. Mr. BALLARD. —Tamworth, at the foot of Bowbridge, on the Coventry road.] P. July—Aug.*

(3) *Flowers hermaphrodite; petals toothed, only 1 beaded.*

R. Root-leaves fiddle-shaped.

pulcher.

E. bot. 1576—*H. ox.* v. 27. 13—*Pet.* 2. 10—*J. B.* ii. 988. 3—*Till. pis.* 37. 2.

Stem-leaves egg-oblong, entire, not hollowed out at the sides. *Flowering-branches* bowed back. *Valves* blunt at the end, the outer with a grain, and the rest with an imperfect grain. LINN. *Stem* much branched. *Branches* alternate, with a strap-spear-shaped leaf under each. WOODWARD.

Fiddle Dock. Rubbish, dry meadows, and road sides. [In Norfolk, very common. Mr. WOODWARD.—Wick cliffs and Mangot's field near Bristol. Mr. SWAYNE.—Opposite the Inn at Alliston, Gloucestershire. Mr. BAKER.] P. July—Aug.

(4) *Flowers hermaphrodite: petals toothed, all beaded.*

R. Leaves strap-shaped; flowers in distant whirls.

palustris.

Curt. 163—*E. bot.* 1932—*Lob. obs.* 151. 2. and *ic.* i. 286. 1—*Ger. em.* 389. 2—*Park.* 1225. 8—*J. B.* ii. 987. 2—*Pet.* 2. 7.

Root red. LINN. *Root* without of a reddish brown, within of a beautiful carmine red. *Leaves* sometimes found with red veins, like those of *R. sanguineus*. *Valves* green, with two or three fine long teeth on each side. CURTIS. (but shorter than those of *R. maritimus*. *Stem* furrowed, rough, reddish. *Leaves* strap-spear-shaped, acute; those at the root very large. *Whirls* leafy. *Valves* spear-shaped, with oblong grains. *Fl. Brit.*

Botanists entertain different opinions respecting this plant: Mr. Relhan does not hesitate to say that it is only a variety of the *R. maritimus*, and Mr. Turner seems inclined to support him. E.)

Yellow Marsh Dock. *Rumex maritimus.* WITH. Ed. 4. Road sides, and amongst rubbish. Tothill Fields, London.

* It is a medicine of considerable efficacy, both externally applied as a wash for putrid spongy gums, and internally in some species of scurvy. In rheumatic pains, and chronic diseases, from obstructed viscera, it is said to be useful. The powdered root is excellent for cleaning the teeth. The root has sometimes a reddish tinge, but soon changing to a yellowish brown when exposed to the air. The *Circulia Lapathi* is found upon the leaves.

PLUK.—St. George's Fields, and many places about London.
 RAY. CURT. (By Aledam, Norfolk. Mr. PITCHFORD. *Fl.*
Brit. E.) P. July—Sept.

mari'timus. R. Leaves strap-shaped; whirls crowded together, spike-like.

E. bot. 725—*Kniph.* 7—*Pet.* 2. 8—*J. B.* ii. 988. 1.

Stems very leafy. Mr. WOODWARD. Leaves flat and smooth. Petals each with four long teeth, like the fingers of an expanded hand. Whirls of flowers golden yellow, so closely crowded together as to assume the appearance of leafy spikes.

Golden Dock. *R. maritimus*. LINN. *Lapathum folio acuto, flore aureo*. RAY Syn. 142. Seeds very small, lighter coloured than in the other species; leaves paler and narrower. RAY. *Lapathum aureum*. PETIVER. *R. maritimus* β. HUDS. and BOTT. arr. ed. ii. (*R. aureus*. WITH. Ed. 4. E.)

In marshes; about Crowland, Lincolnshire; near the Trent at Swarston, Derbyshire; and between Hithe and the sea. RAY. —Sea coast in low wet places. Solway Frith. LIGHTFOOT.—[Severn Stoke, Worcestershire. Mr. BALLARD.—Sides of Ancott Pool, near Shrewsbury. Mr. AIKIN.] P. July—Aug.

obtusifo'lius. R. Leaves heart-oblong, bluntish, finely notched.

Curt. 168—*E. bot.* 1999—*Lob. ic.* i. 285. 1—*Ger. em.* 388. 3—*Park.* 1225. 4—*Pet.* 2. 9—*Munt. brit.* 68, *phyt* 187—*Ger.* 312. 3—*J. B.* ii. 985. 1.

Stem-leaves spear-shaped, pointed. Mr. WOODWARD. Stems about two feet high, furrowed and set with short white transparent bristles. Leaves curled at the edge, ribs downy; the upper heart-strap-spear-shaped, the lower ones oval at the end. Leaf-stalks shorter than the breadth of the leaves. Fruit-stalks sprinkled near the top with white shining globules. Pedicles surrounded near the base by an indistinct cartilaginous ring. Calyx-leaves boat-shaped, nearly as long as the petals. Petals spear-shaped flat, not very evidently toothed: that with the largest grain outermost when the fruit-stalk bends downwards, and with the longest teeth; none of the teeth equal in length to the diameter of the petal.

Broad-leaved Dock. Amongst rubbish, farm-yards, courts, and sides of ditches. P. July—Aug.*

(5) Flowers hermaphrodite; valves without beads.

digy'nus. R. Styles 2; (valves without grains. E.)

* Fallow Deer eat both this and the *R. acutus* with avidity, biting it close to the root, so that it is very rare to see a Dock growing in a deer park; but in other pasture lands few weeds are so troublesome.

E. bot. 910—*Fl. dan.* 14—*Pluk.* 252. 2—*H. ox.* v. 36. row 3. f. 3—*Pet.* 3. 4.

Flower cloven into four, consisting of a calyx of two leaves, and a blossom of two petals. *Germen* compressed. *Seed* 2-edged, compressed. LINN. *Stem* naked. *Leaves* kidney-shaped, slightly and irregularly notched; on long leaf-stalks. *Valves* roundish, tinged with red, membranaceous. Mr. WOODWARD.

Mountain Dock. *Welsh Sorrel.* *Acetosa rotundifolia*, &c. *R. Syn.* 143. Mountains of Wales, Yorkshire, Westmoreland, Cumberland. Rocks by the sides of rivulets from the Highland mountains, and the Isles of Rum and Skye. [On walls at Tortworth, Gloucestershire. Mr. BAKER. About Keswick. Mr. ROBSON.] P. May—July.

(6) *Male and female flowers on distinct plants.*

R. Leaves oblong arrow-shaped.

Aceto'sa.

Sheldr. 57—*E. bot.* 127—*Blackw.* 230—*Woodv.* 69—*Park.* 742. left hand figure;—*Pet.* 3. 1—*Fuchs.* 464—*Trag.* 315—*J. B.* ii. 990. 1—*Matth.* 447—*Dod.* 648. 4—*Lob. obs.* 155. 1, ic. i. 290. 2—*Ger. em.* 396. 1—*Park.* 742. n. 1—*H. ox.* v. 28. row 1. 1—*Ger.* 319. 1—*Munt. brit.* 174, and *phyt.* 73—*Lonic.* 88. 2.

Leaf-stalks purplish. *Blossom* reddish. (*Lobes* at the base of the leaves always pointing backwards. E.)

Common Sorrell. *Sorrell Dock.* Meadows and pastures. P. June.*

R. Leaves spear-alberd-shaped,

Acetosel'la.

Fl. dan. 1161—*Blackw.* 307—*E. bot.* 1674—*Trag.* 316—*J. B.* ii. 992. 1—*Dod.* 650. 1—*Lob. obs.* 156. 1—*ic.* i. 291. 2—*Ger. em.* 397. 3—*Park.* 744. 13—*H. ox.* v. 28. 12—*Pet.* 3. 2—*Munt. brit.* 189. 2; *phyt.* 76. 2; *brit.* 182. *phyt.* 77—*Matth.* 448—*Ger.* 320. 3—*Park.* 744. 15—*H. ox.* ib. 11—*Pet.* 3. 4—*Zanon.* 5.

* The leaves are eaten in sauces and sallads. The Laplanders use them to turn milk sour. In France they are cultivated for the use of the table, being introduced in soups, ragouts and fricassees. In some parts of Ireland they are eaten with milk. The Irish also eat them with fish, and other alkaliescent food. The dried root gives out a beautiful red colour when boiled. A Salt, sold for Salt of Lemons, is prepared in Germany, from the expressed juice of this plant, and is imported into England in considerable quantity. The mucilaginous parts are separated by water mixed with pipe-clay, and two or three chrySTALLIZATIONS make the Salt sufficiently pure.—Horses, cows, goats, sheep, and swine eat it. The *Aphis Acetosæ* feeds upon it.

HEXANDRIA. TRIGYNIA. Scheuchzeria.

(Not more than half the size of *J. acetosa*, and differs from it likewise in having the segments of the calyx entire and all destitute of grains. *E. bot. E.*) The lobes at the base of the leaves pointing upwards or horizontally, but in the preceding species they always point backwards. *Flowers* reddish.

It is subject to some slight variations in the shape of the leaves, as represented in Ger. 321. 6 and 7. and Ger. em. 398. 6.

Sheep's Sorrel or Dock. Sandy meadows, pastures, gravel walks. P. May—July.*

(SCHEUCHZERIA. *Calyx* none: *petals* 6: *stigmas* sessile, lateral: *capsules* 3, superior, inflated: *seeds* 1 or 2: *anthers* linear. *E. bot.*

palustris. S.

E. bot. 1801—*Fl. dan.* 76.

Root long, creeping, scaly. *Stems* erect, simple, a span high. *Leaves* few, sheathing, rushy, semi-cylindrical, rising above the top of the stem, mostly radical, each having a pore at its point, (first remarked by Mr. Dalton,) through which water oozes when the leaf is compressed. *Flowers* in a simple, terminal, bracteate cluster, greenish brown, small and inconspicuous. *Petals* recurved, equal and uniform, yellowish green. *Stamens* slender and flaccid. *Anthers* brown, vertical, linear, bursting by two longitudinal internal pores. *Germens* ovate, three, occasionally four, five, or six, with lateral sessile, oblong, downy stigmas. *Capsules* globose, inflated, each containing one or two roundish seeds. *E. bot.*

Marsh Scheuchzeria. The very interesting communication of this genus, new to the British Flora, was made to Dr. Smith, by the Rev. Mr. Dalton the fortunate discoverer, who found this very rare plant growing abundantly in Lakeby Car, near Borough-bridge, Yorkshire. We have taken the liberty of transcribing the improved characteristics, first published in the English Botany. P. June. E.)

TOFIEL'DIA. *Calyx* none: *bloss.* 6 *petals*: *caps.* 3-celled, 6-valved.

palustris. T. *Petals* inversely egg-shaped, blunt.

* The *Phalena fuliginosa*, *Atriplicis* and *Rumicis*, and the *Meloe Proscarabaeus*, are found upon the different species of this genus.

E. bot. 536.—*Seguier.* 2. 14—*Fl. dan.* 36—*Clus. i.* 198—*Ger. em.* 96—*Lightf.* 8. 2. at p. 124—*Fl. lapp.* 10. 3—*Gmel. i.* 18. 2.

(*Root* woody, with long white fibres. *Leaves* sword-shaped, fibrous. *Stem* a span high, upright, simple, nearly naked, cylindrical. *Spike* terminating, solitary, upright, blunt, thick. *Stamens* awl-shaped, smooth, opposite the petals, but scarcely so long. *Anthers* fixed by the side, roundish, heart-shaped, yellow. *Styles* short, distinct. *Summit* blunt. *Seeds* numerous, oval, tawny-coloured. *Fl. Brit. E.*) A small trifid *floral-leaf* at the base of each flower, resembling a cup. **LIGHTFOOT.** *Leaves* like grass. *Flowers* in a spike; yellow or greenish.

Scotch Asphodel. Marsh Tofieldia. Asphodelus Lancastriæ vernus. Ger. em. 96. n. ‡ 2. *Anthericum calyculatum.* Linn. Bogs on mountains in Scotland. Near Berwick. On Glenmore, Ross-shire, and Ben Grihum, Sutherland. About Loch Rannoch, Perthshire. Isle of Rum, and Bidan-nam-bian in Glencoe. [In a bog at the back of Invercauld house Aberdeenshire, where it grows abundantly and with uncommon luxuriance. Also on several hills about Invercauld and on the mountains of Breadalbane. Mr. BROWN.—West side of the county of Durham. Mr. ROBSON.] P. July—Sept.

TRIGLO'CHIN. *Cal.* 3-leaved: *petals* 3, like a cup: *style* none: *caps.* opening at the base.

T. Capsule 3-celled, nearly strap-shaped.

palus'tre.

E. bot. 366—*Fl. dan.* 490—*Leers* 12. 5—*Trag.* 679—*H. ox.* viii. 2. 18—*J. B.* ii. 308. 2—*Ger.* 18. 1—*C. B. th.* 81—*Ger. em.* 20. 1—*Park.* 1279. 10.

Stamens, three within the leaves of the calyx, and three within the petals, Mr. HOLLEFEAR. The pointed valves of the *capsule* opening at the bottom, give it the appearance of the head of an arrow. *Flowers* in a long terminating spike, greenish. —(ROTH denies the existence of a corolla in this genus, and thinks that what are here called petals, are merely parts of a calyx of six leaves. E.)

Arrow-headed Grass. Marsh Arrow-grass. Wet meadows and pastures. (Bootle, near Liverpool. Dr. BOSTOCK. E.) [Tamworth.] P. July—Aug.*

* Cows are extremely fond of it. Horses, sheep, goats, and swine eat it.

HEXANDRIA. TRIGYNIA. Colchicum.

maritimum. T. Capsule 6-celled, egg-shaped.

Fl. dan. 306—*E. bot.* 255—*Ger.* 12. 2—*C. B. th.* 82—*Park.* 1278.
9—*H. ox.* viii. 2. 19—*J. B.* ii. 508. 1.

Leaves slender, semi-cylindrical. *Spike* from four to twelve inches long; greenish. (Resembling the former species, but the leaves broader and more fleshy. *Capsule* shorter. E.)

Sea Arrow-grass. Meadows near the sea. [Near Yarmouth. Mr. WOODWARD. Salt marshes near Ingestre, Staffordshire. ST.—Bog at the source of the Yar, in the Isle of Wight. Salt marshes about Lymington.] (Knotshole and Bootle, near Liverpool. Dr. BOSTOCK. E.) P. May—Aug.*

COLCHICUM. *Calyx* none: *bloss.* with 6 divisions, tube very long, extending down to the root: *caps* 3, inflated, united.

autumnale. C. Leaves flat, spear-shaped, upright.

Stoerck-Fuchs. 356. 357—*Woodv.* 177—*E. bot.* 133—*Trag.* 759—*J. B.* ii. 649—*Blackw.* 566—*Kniph.* 12—*Dod.* 460. 2—*Ger. em.* 157. 1—*Ger. em.* 157. 2—*Pet.* 67. 2—*Tourn.* 181. 182—*H. ox.* iv. 3. 1—*Ger.* 127. 1 and 2.

Flowers in September, produces its fruit in the following spring, and ripens it in summer. LINN. In the spring several spear-shaped leaves arise with generally one or two as long as the rest, but only a quarter as wide, being a kind of *flower-leaves* to the seed-vessel. *Capsule* large, somewhat egg-shaped, with three very blunt angles. WOODWARD. *Blossom* tube three-cornered; *segments* rather unequal. *Styles* reaching down to the root. *Germs* at the root surrounded by the rudiments of the future leaves. It lies buried all winter within the root; in spring it grows up on a fruit-stalk, and ripens about the time of hay harvest. May not the very great length of the styles account in some measure for the delay in the ripening of the seeds? As this plant blossoms late in the year, and probably would not have time to ripen its seeds before the access of winter, which would destroy them, Providence has contrived its structure such, that this important office may be performed at a depth in the earth, out of reach of the usual effects of frost, as seeds buried at such a depth, are known not to vegetate. A no less admirable provision is made to raise them above the surface when

* It is salt to the taste; but horses, cows, sheep, goats, and swine are very fond of it. LINN.—May it not, therefore, prove a useful grass on the sea shore, and in salt marshes? Dr. STOKES.

when they are perfected, and to sow them at a proper season.
Blossom pale purple.

Meadow Saffron, or *Tuberoot*. Meadows low as well as mountainous, in rich soil in the west and north of England.—[Near Bury. Mr. WOODWARD.—Derby. Mr. WHATELY.—In orchards on the borders of Malvern Chase, Worcestershire. Mr. BALLARD.—On the meadows bordering the Severn, Worcestershire. ST.—Wellington and Hales Owen, Shropshire. In the meadow between the church and the medicinal spring at Cheltenham, in great plenty.]—(Field opposite Egleston, Durham. Rev. J. HARRIMAN; and near Darlington. Mr. ROBSON, in *Bot. Guide*.—Under a Beech-tree between Upper Leeswood House and the river near Mold. Mr. GRIFFITH.—A little below Newby Bridge, on the left hand side of the road to Ulverstone. Mr. J. WOODS, jun.—Meadows between Bath and Bristol. Mr. DYER. E.)
P. Aug.—Sept.*

Var 2. Blossom divisions very large, green, and leaf-like; stamens imperfect.

E. bot. 1432.

Shewn me by Mr. Salmon, who observed it growing thus year after year in a meadow near Devizes, Wiltshire.

HEXAGYNIA.

ARISTOLO'CHIA. *Bloss.* 1 petal, tongue-shaped, entire: *stamens* near the germen: *caps.* 6-celled, beneath.

A. Leaves heart-shaped; stem upright; flowers crowded, Clemati'tis. in the bosom of the leaf-stalks.

Ludw. 105—*E. bot.* 398—*Riv. mon.* 116—*Mill. illustr.*—*Mill. ic.* 51. 1—*Woodv.* 238—*Blackw.* 255—*Kniph.* 1—*Clus.* ii. 71—*Dod* 326—*Lob. obs.* 332. 2. *ic.* i. 697. 2—*Ger. em.* 847. 4—*H. ox.* xii. 17. 5—*Ger.* 697—*Lonic.* i. 134. 2—*Fuchs.* 90—*Trag.* 178—*Matth.* 648—*Gars.* 5. A.

* This is one of those plants which upon the concurrent testimony of ages was condemned as poisonous; but Dr. Stoerck, of Vienna, has taught us that it is a useful medicine. The roots have much of acrimony. An infusion of them in vinegar, formed into a syrup, by the addition of sugar or honey, is found to be a very useful pectoral and diuretic. It seems in its virtues very much to resemble Squill, but is less nauseous and less acrimonious, though more sedative. (Dr. Swediaur recommends it as a narcotic, and drastic purge, particularly in cases of Dropsy. E)

In a pasture in which were several horses, and eaten down nearly bare, the grass was closely cropped even under the leaves, but not a leaf bitten. Mr. WOODWARD.

HEXANDRIA. POLYGYNIA. *Alisma*.

Stem upright, two or three feet high, simple, scored, cylindrical, smooth, slightly zigzag. *Leaves* alternate, blunt, shining above, pale green, smooth and veiny underneath. *Leaf-stalks* nearly as long as the leaves. *Flowers* six or more together, upright or hanging down. *Blossom* scored, yellowish green, often tinged with purple. *Capsule* egg-shaped, blunt, hanging down. Mr. WOODWARD.

Common Birth-wort. Woods and hedges. Wood two miles from Thorndon, Essex, and in Cambridgeshire. BLACKSTONE. —Near Maidstone, Kent. HUDS.—Surston, Suffolk. Mr. WOODWARD. (Among the ruins of Carrow Abbey, Norwich. Rev. C. SUTTON. in *Bot. Guide*. Near the walls of Gadstow Nunnery. SIBTHORPE. Near Kencot, Oxfordshire. Rev. Dr. GOODENOUGH. E.) P. July—Sept.*

POLYGYNIA.

ALIS'MA. *Calyx* 3-leaved: *petals* 3: *seeds* many.

Planta'go.

A. Leaves egg-shaped, acute, on leaf-stalks; umbellules bluntly 3-cornered.

Curt. 318—*E. bot.* 837—*Kniph.* 12—*Fl. dan.* 561—*Trag.* 226. 2—*Lonic.* 142. 4—*Fuchs.* 42—*J. B.* iii. 787. 3—*Matth.* 482. *Dod.* 606. 1—*Lob. obs.* 160. 1—*Ger. em.* 417. 1—*Park.* 1245. 1—*Ger.* 337. 1—*Pet.* 43. 6.

Fruit-stalks mostly six in a whirl, alternately longer and shorter; their subdivisions the same. Mr. STACKHOUSE. *Stems* and *branches* with three blunt corners. *Leaves* with eight ribs, two of them near each edge. *Blossom* fully expanded about four in the afternoon; *petals* ragged at the end, shrivelling, pale reddish purple, yellow at the base. *Capsules* about eighteen; egg-shaped.

Water Plantain. Greater Thrumwort.

Var. 2. Long-leaved.

Pet. 43. 7.

Leaves spear-shaped; on leaf-stalks; less acutely pointed than in the preceding.—Common in watery places, banks of pools and rivers. P. July—Aug.

Damaso'
vium.

A. Leaves heart-oblong; pistils 6; capsules awl-shaped.

Curt.—*E. bot.* 1615—*Lob. obs.* 160. 2, and *ic.* i. 301. 1—*Ger. em.* 417. 2—*Park.* 1245. 3.

* The *Tipula pennicornis* fecundates the flowers. SCHREBER.

Leaves with net-like veins. *Leaf-stalks* flat, long. *Stem* naked. *Flowers* in lateral and terminating umbels. Mr. WOODWARD. *Capsules* large, spear-awl-shaped, forming a star-like umbellule with 6 spokes. *Blossom* white.

Star-headed Thrumwort, or *Water Plantain*. Ditches and stagnant waters. [Rumford. Mr. PITCHFORD.] (Wanstead Park, Essex. Mr. SOWERBY. E.) P. June—Aug.

A. Root-leaves strap-shaped, membranaceous; floating na'tans, leaves egg-shaped, blunt, on long leaf-stalks; fruit-stalks solitary.

E. bot. 775.

Capsules generally 8. *Flowers* several from the same sheath. LINN. *Fruit-stalk* very long. *Flowers* large. WOODWARD. In alpine rivulets I have seen the leaves drawn to the length of 3 or 4 yards by the force of the stream, but in this state and situation it never flowers. Mr. GRIFFITH. (*Capsules* striated. *Fl. Brit.* E.)

Creeping Thrumwort, or *Floating Water Plantain*. Lakes and wide ditches. [South end of the Lake of Bala, Merionethshire. Mr. WOOD. In a small rivulet on the west side of the lower lake at Llanberris, about half a mile from the old castle. Mr. GRIFFITH.] (In Keswick Lake. Hon. C. GREVILLE. Ancot Pool, near Shrewsbury. Mr. A. AIKIN. E.) P. July,

A. Leaves strap-spear-shaped, on leaf-stalks; umbellules ranunculoides, globular, the points of the capsules diverging.

E. bot. 326—*Fl. dan.* 122—*J. B.* iii. 788—*Lob. ic.* i. 300, 2—*Ger. em.* 417. 3—*Park.* 1245. 2—*Pet.* 43. 8.

This plant has a very disagreeable smell. Mr. ATKINSON. In places where the water is nearly dried up the *stem* is from 2 to 6 inches high, hardly longer than the leaves, and some of the flowering *branches* trailing; but, where there is plenty of water, the *stem* is from 1 to 2 feet high, upright, naked, the umbels numerous, proliferous, and the *root-leaves* not greatly exceeding the leaf-stalks in breadth. Mr. WOODWARD. *Capsules* inversely egg-shaped, pointed. *Blossom* bluish white, opens about noon.

Lesser Thrumwort, or *Small Water Plantain*. Wet turfy bogs. Giggleswick Tarn, Yorkshire. CURTIS. Boggy meadows, common. Bungay, Suffolk. Ellingham Fen, Norfolk. Mr. WOODWARD. Between Burton and Derby. Mr. WHATELY. In the ditch at Goldmire near Dalton. Mr. ATKINSON. (About Bootle and Crosby, near Liverpool. Dr. BOSTOCK. E.) In the

marsh at Marazion. (Not unfrequent in the district of the Lakes. E.) P. June—Sept.

lanceola'ta. A. Leaves strap-spear-shaped; fruit 3-cornered.

Ger. 337. 2.

Not more than an inch or two in height. *Leaves* nearly strap-shaped, without any distinct leaf-stalk.

Narrow Water Plantain, or *Thrumwort*. A. *Plantago*. var. β . Huds. Fl. Brit. Ditches and shallow waters. (P. July. E.)

CLASS VII.

HEPTANDRIA.

MONOGYNIA.

TRIENTALIS. *Calyx* 7 leaves: *bloss.* with 7 divisions, equal, flat: *berry* dry, superior, globular, 1-valved, 1-celled: *seeds* flattened.

Europæa. T. Leaves spear-shaped, very entire.

E. bot. 15—*Fl. dan.* 84—*C. B. pr.* 99—*Pet.* 62. 15—*Park.* 509. 5. a—*C. B. pr.* 100—*H. ox.* xii. 10. row 3. 6—*Park.* 509. 5. 6.

Blossoms close on the approach of rain, when the flowers hang down. LINN. *Stem* single, about 5 inches high. *Leaves* 5 to 7, terminating the stem. *Flowers* commonly 2, on long fruit-stalks. LIGHTFOOT. Terminating *leaves* sometimes 8, finely, but obscurely serrated, smooth; 1 or 2 smaller ones scattered on the upper part of the stem. STOKES. *Leaves* sometimes oval-spear-shaped. WOODWARD. *Blossoms* white, on long fruit-stalks.

Chickweed Winter Green. Woods and turfy heaths in the Northern counties. (Near Settle, Yorkshire. Mr. WOODWARD. East side of Seamer Moor, near Scarborough. Mr. TRAVIS. E.) Near Bingley, Yorkshire, plentifully. Moorish ground on the sides of the Highland mountains. [Foot of Ben Lomond. On the North side plentiful. Den of Ballhaisek, Perthshire, and woods about Aberdeen. Mr. BROWN.] P. June—July.

CLASS VIII.

OCTANDRIA.

MONOGYNIA.

(1) *Flowers complete.*

A'CER. Male *Flowers* many: *Bloss.* 5 petals: *Cal.* 5-cleft: *Capsules* 2 or 3; 1 seed in each; winged with a membrane at the end.

ÆNO'THERA. *Cal.* with 4 divisions: *Bloss.* 4 petals: *Caps.* cylindrical, beneath: *Seeds* naked.

EPILO'BIUM. *Bloss.* 4 petals: *Cal.* with 4 divisions; superior: *Caps.* 4-celled: *Seeds* downy.

CHLO'RA. *Bloss.* 8-cleft: *Cal.* 8 leaves: beneath: *Caps.* 1-celled; 2-valved; many seeded.

VACC'NIUM. *Bloss.* 8-cleft: *Cal.* 4-toothed; superior: *Anthers* awned in the middle: Fruit a *Berry*.

ERI'CA. *Bloss.* 4-cleft: *Cal.* 4 leaves; beneath: *Anthers* cloven: *Caps.* many-seeded.

POP'ULUS. *Flowers* in catkins; M. and F. on distinct plants: *Cal.* a ragged scale of the catkin: *Bloss.* turban-shaped: oblique; entire.

F. *Summit* 4-cleft: *Caps.* 2-celled: *Seeds* many; downy.
[*Monotropa Hipopithys.* *Andromeda Daboecia.*]

(2) *Flowers incomplete.*

DAPH'NE. *Cal.* 4-cleft; equal; resembling a blossom: *Stamens* inclosed: *Berry* pulpy.
[*Salix pentandra.*]

DIGYNIA.

CO'RYLUS. *Flowers* M. and F. on the same plant: *Bloss.* none.

M. *Catkin* tiled: *Cal.* 1 leaf; 3-cleft; resembling a scale; inclosing 1 flower.

F. *Cal.* 1 leaf; 2-lipped; ragged: *Nut* egg-shaped.

[*Scleranthus annuus*, and *perennis.* *Chlora perfoliata.* *Polygonum pensylvanicum.* *Chrysosplenium.* *Quercus.*]

OCTANDRIA.

TRIGYNIA.

POLY'GONUM. *Cal.* with 5 divisions; coloured; *Bloss.* none: *Seed* 1; naked.

[*Quercus.*]

TETRAGYNIA.

ELATINE. *Bloss.* 4 petals: *Cal.* 4 leaves: *Caps.* 4-celled.

PA'RIS. *Bloss.* 4 petals; awl-shaped: *Cal.* 4-leaved: *Berry* 4-celled.

ADOX'A. *Bloss.* superior; 4 or 5-cleft: *Cal.* 2 leaved: *Berry* with 4 or 5 seeds.

MYRIOPHYLLUM; *Flowers* often M. and F. on the same plant: *Cal.* 4 leaves: *Bloss.* none.

F. *Stylé* none: *Seeds* 4; naked.

QUER'CUS. *Flowers* M. and F. on the same plant: *Bloss.* none,

M. *Cal.* mostly 5-cleft: *Stam.* 5 to 10.

F. *Cal.* 1 leaf; very entire; rough: *Styles* 2 to 5: *Seed* 1; egg-shaped.

RHODI'OLA. *Flowers* M. and F. on different plants: *Cal.* with 4 divisions.

M. *Bloss.* 4 petals.

F. *Bloss.* none: *Nectaries* 4: *Caps.* 4-seeded.

OCTANDRIA.

MONOGYNIA.

EPILO'BIUM. *Cal.* 4-leaved, deciduous: *petals* 4: *caps.* beneath, 4-celled, very long: *seeds* many, downy at the top.

(1) *Stamens* leaning.

angustifo'-
lium. E. Leaves scattered, strap-spear-shaped: blossoms irregular; (stamens declining. E. bot. E.)

Fl. dan. 326—*Curt.* 106—*E. bot.* 1947—*Kniph.* 11—*Park. par.* 267. 6—*Ger. em.* 289. 7—*Pet.* 52. 10—*J. B.* ii. 907. 1—*H. ox.* iii. 11. row 1. 1. f. 3.

(*Leaves* nearly sessile, strap-spear-shaped, acute, entire or slightly toothed, smooth, veiny, glaucous beneath. *Pollen* blue. *Stigma* 4-cleft. *E. bot.* E.) *Leaves* edged with a few small teeth, thinly set. *Blossoms* rose coloured, or white. *Petals* entire. The *stamens*, the *anthers* and the *pistils*, have regular and successive motions during the impregnation of the germen.

Rose-bay Willow-herb. *Persian Willow* or *French Willow*. (In Norfolk, but not a native of that county. E.) Woods and hedges. Meadows near Sheffield; Alton, Hants; Maise Hill beyond Greenwich; many places in Scotland; Grass woods near Kilnsay, Yorkshire. [At Satterthwaite and Brow-edge in Furness Fells. Mr. JACKSON.—Near Berkhamstead, Herts, plentifully. Mr. WOODWARD.—Near the canal bridge at Oldbury, Staffordshire.] P. June—Aug.*

(2) *Stamens* upright; *blossoms* regular; *petals* cloven.

E. *Leaves* egg-spear-shaped, hairy, half embracing the hirsutum stem; stem very much branched and hairy.

Fl. dan. 326—*Curt.* 117—*E. bot.* 838—*Fuchs.* 491—*J. B.* ii. 905. 3—*Lonic.* i. 135. 2—*Ger.* 386. 3—*Ger. em.* 476. 6—*Pet.* 52. 11—*H. or.* iii. 11. 3.

Stem cylindrical. *Leaves* opposite or alternate, with soft hairs on both sides; serratures hooked, blunt. *Branches* and *fruit-stalks* from the bosom of the leaves. *Calyx-leaves* smooth, united at the base by means of a glandular receptacle. *Petals* twice as long as the calyx, inversely heart-shaped, of a fine rose-colour; claws white with white scores spreading upwards. *Filaments* white, the longest much longer than the calyx. *Flowers* sometimes wholly white.

Large flowered Willow-herb. *Great Hairy Willow-herb.* *Codlings and Cream.* Moist hedges, ditches, and banks of brooks, rivers, and lakes. P. July.†

E. *Leaves* spear-shaped, pubescent, nearly sitting; stem parviflorum hairy, unbranched.

* Goats are extremely fond of it. Cows and sheep eat it. Horses and swine refuse it.—The *Phalana Porcellus* and *Spinx Elpenor*, are found upon it. The suckers of the root are eatable. An infusion of the plant has an intoxicating property, and the Kamschatcades brew a sort of ale from the pith, and from the ale make alegar. The down of the seeds also mixed with cotton or fur has been manufactured into stockings and other articles of cloathing.

† The top shoots have a delicate fragrance resembling scalded codlings, whence one of its names, but so transitory, that before they have been gathered 5 minutes, it is no longer perceptible: Horses, sheep, and goats eat it. Cows are not fond of it. Swine refuse it.

Curt. 125—*E. bot.* 795—*Fl. dan.* 347—*H. ox.* iii. 11. 4—*Pet.* 52. 12.

Stem cylindrical, sometimes branched towards the top. *Leaves* mostly opposite, lower ones rather embracing the stem, middle one sitting, upper ones sometimes on very short leaf-stalks. *Blossom* much smaller than in either of the preceding species; flesh-coloured. *Filaments* the longest hardly longer than the calyx.

Small flowered hoary Willow-herb. Woolly or Wood Willow-herb. E. hirsutum. β LINN. *E. hirsutum.* HUDS. *E. villosum.* CURT. *Fl. oxon. and Bot. arr. ed. ii.* *E. parviflorum.* SCHREB. GMELIN. and *Bot. arr. ed. i.* Watery places and sides of ditches and rivulets, P. July—Aug.

montanum. *E.* Leaves opposite, egg-shaped, toothed; the upper ones alternate; stem cylindrical.

Curt. 195—*E. bot.* 1177—*Fl. dan.* 922—*Kniph.* 11—*Walc.—Clus.* ii. 51. 2—*Dod.* 85. 1—*Lob. obs.* 185. 4—*Ger. em.* 479, 11—*Park.* 548. 3—*Pet.* 53. 1.

(*Stigma* in four lobes, by which it is essentially distinguished from *E. roseum.* *E. bot.* E.) *Stem* cylindrical, upright, reddish. very soft, somewhat downy. *Leaves* smooth, finely toothed, very soft, especially underneath, with a down just perceptible. LINN. *Leaves* spear-egg-shaped. *Petals*, pale purple, veined with deeper purple lines; sometimes white.

Var. 2. Leaves three and four at a joint.

Broad Smooth-leaved Willow-herb. Woods, hedge rows, shady lanes and moist meadows, in a gravelly soil, and sometimes on walls in courts. P. July.

tetragonum. *E.* Leaves spear-shaped, finely toothed, the lowermost opposite; stem 4-cornered; (summit entire. CURT.)

E. bot. 1948—*Fl. dan.* 1029—*Kniph.* 11—*Curt.* 131.

(May be distinguished from *E. palustre* by the four angular ribs at unequal distances from each other on the stem. *E. bot.* E.) —*Stem* upright. *Leaves* smooth; sometimes all strap-spear-shaped. Mr. WOODWARD. *Blossom* purplish red; (the plant twelve to eighteen inches high. E.)

Square-stalked Willow-herb. Marshes, and sides of rivulets and ditches. [Near Bungay, Suffolk; and Alconbury, Huntingdonshire. Mr. WOODWARD.] P. July.

- E. Leaves opposite, spear-shaped, very entire; petals palus'tre. notched at the end; stem upright.

Dicks. h. s.—E. bot. 346—Ger. 386. 4—Pet. 53. 4.

Stem cylindrical, downy, or smooth. *RELHAN.* *Upper leaves* alternate, varying extremely in breadth. Short leafy branches rise from the bosom of the leaves *Mr. WOODWARD.* *Leaves* sitting, smooth. *Petals* notched at the end, reddish purple, with deeper purple streaks. *Anthers*, at the time of shedding their pollen, adhere firmly to the summits, so as hardly to be separated without violence, but before and after that time they do not touch it.

Round-stalked Marsh Willow-herb. Marshes, bogs, and sides of lakes. P. July.

- E. Leaves opposite, sitting, smooth, egg-spear-shaped, al- alpi'num. most entire; capsules sitting; stem with about 3 flowers, trailing at the base.

Dicks. h. s.—E. bot. 2001—Fl. dan. 322—Lightf. 10. 1. at p. 242.

Stem trailing, hardly a span high. *LINN.* Afterwards upright, bearing one or two flowers at the top. *Leaves* quite smooth. *Pods* quite smooth, four or five times longer than the leaves. *LIGHTFOOT.*—*Leaves* sometimes slightly toothed. *Mr. WOODWARD.*—(Only the *floral-leaves* alternate. *Flowers* generally two, rarely one or three on simple stalks from the bosoms of the upper leaves. *Petals* rose-coloured, cloven. *E. bot. E.*)

Alpine Willow-herb. Alpine rivulets. Cheviot Hills, Northumberland; near Settle, Yorkshire; Ben Buy, Ben Lomond, and near Little Loch Broom, Ross-shire. Mountain in Breadalbane and Corry Yaal, in Glenco. [Moist rocks about Backbarrow Well, *CURTIS.*] P. July—Aug.

ŒNO'THERA. *Bloss.* 4 petals. *Cal.* with 4 divisions. *Caps.* cylindrical, beneath. *Seeds* naked.

- O. Leaves egg-spear-shaped, flat; stem covered with bien'nis. sharp points and soft hairs: (stamens regular; petals undivided. *E. bot. E.*)

E. bot. 1534—Fl. dan. 446—Kniph. 67.

This plant has been discovered in such various and little frequented parts of the kingdom, that we can no longer hesitate to introduce it as British. Mr. Norris says, it has established itself, to his knowledge, during five years, if not longer, in a neglected concavity whence a coarse sand-stone has been formerly extracted in Bowood Park, the seat of the Marquis of Lansdown, near Devizes. The seeds are regularly ripened every year, and produce abundantly; the plants in general do not flower before the second season, after which the root dies, being biennial. They seem perfectly naturalized and increase in number yearly. Mr. Norris lately saw more than twenty distinct ones in flower, surrounded by a multitude of younger, which will not blossom till the succeeding season. The spot is not near any house nor vestiges of such. About Bath, and some other places, it is said to be commonly found on dunghills, &c. seeming to be in parallel circumstances with the *Datura Stramonium*. It attains the height of five or six feet. The main stem and larger branches are every where beset with minute asperities, terminating in fine transparent hairs, feeling not unlike a rough file. Leaves rather waved than flat. (Blossoms fragrant, large and yellow, expanding in an evening. E.)

Evening Primrose. [Bowood Park. Mr. NORRIS.—Ballast-hills, near Sunderland, Durham. Mr. ROBSON.—In Worcestershire. Rev. Mr. BOURNE.]—(Fields between Crosby and the sea, near Liverpool. Dr. BOSTOCK. E.) B. July—Sept.

A'CER. *Male* flowers intermixed.

Calyx 5-cleft: *bloss.* 5 petals: *caps.* 2 or 3; 1-seeded: ending in a leaf-like expansion.

Pseudo-platanus.

A. Leaves 5-lobed, blunt, unequally serrated; flowers in compound, pendent bunches.

E. bot. 303—*Hunt. vel.* p. 200. i. p. 193. *ed.* II. at p. 293—*Nat. delin.* ii. 21. 1. at p. 312—*Lob. obs.* 614. and *ic.* ii. 199. 2—*Park.* 1425. 1—*Chus.* i. 10. 1—*Dod.* 840. 1—*Ger. em.* 1484. 1—*Trag.* 1125.

Blossom yellowish green; petals so much like the calyx that it might be considered at first sight as a cup of ten leaves.

Sycamore Tree. *Sycamore Maple*. Woods, hedges, and near houses.

T. May—June.*

* It flourishes best in open places and sandy ground; but will thrive very well in richer soil. It grows quick; is easily transplanted; bears cropping, and grass flourishes under its shade. It is said to grow better near the sea than in any other situation, and that a plantation, of these trees at 50 feet asunder, with 3 sea Sallow-thorns between every 2 of

Var. 2. Leaves glaucous underneath; serratures very distant; filaments hairy.

First observed by A Caldwell, Esq. of Dublin. Dr. Smith suspects it may be a distinct species. See E. bot. p. 303; but the filaments in Var. 1, are hairy, as well as the germen.

A. Leaves 5-lobed, very entire; the lower lobes notched; *campes'tre*. corymbus with 3 divisions, upright.

Hunt. cvel. at p. 190; i. p. 183. ed. II.—E. bot. 304—Tourn. 386. 1—Spect. de la Nat. ii. 29. 2. at p. 290. and Nat. delin. ii. 19. 2. at p. 312—Dod. 840. 2—Ger. em. 1484. 2—J. B. i. 2. 166—Trag. 1123—Lon. i. 36. 1.

Bark angular, cork-like. Seldom ripens its fruit in Sweden. LINN. Blossoms terminating; pale green.

Common Maple. Hedges and thickets.

S, June.*

CHLO'RA. *Cal.* 8-leaved: *bloss.* 1 petal, 6 or 8-cleft: *Caps.* 1-celled, 2-valved, many-seeded.

C. Leaves perforated.

perfolia'ta.

E. bot. 60—Walc.—Barr. 515 and 516—J. B. iii. 355—H. ox. v. 26. row 1. 1. and 2.f. 1—Pet. 55. 8—Clus. ii. 180—Lob. obs. 219—Ger. em. 547. 2—Park. 272. 4—Ger. 437. 2.

Root-leaves oval, sitting, spread in form of a star; lowest stem-leaves oval, spear-shaped, sitting, the rest perforated, oval-spear-shaped. Flowers in a kind of umbel, of three rays, encompassed by the uppermost leaf, the middle one bearing a single flower without any leaves; the outer ones terminated by a leaf similar to the stem-leaves, from which an umbellule supporting one or more flowers. WOODWARD. Leaves of the calyx, and divisions of the blossom varying from eight to ten. *Stamens* from six to nine. *Capsules* oblong, longer than the tube of the blossom. *Style* thickest towards the top, cloven, yellow.

them, will make a fence sufficient to defend the herbage of the country from the spray of the sea. *Gent. Mag. 1757, p. 252.*—The wood is soft, and very white. The turners form it into bowls, trenchers, &c.—If a hole is bored into the body of the tree, when the sap rises in the spring, it discharges a considerable quantity of a sweetish watery liquor, which is used in making wines, and, if inspissated, affords a fine white sugar.—The pollen appears globular in the microscope, but, if touched with any thing moist, these globules burst open with 4 valves which then appear in form of a cross. *Scarabæus Melontha* feeds upon the leaves. LINN.

* The wood is much used for turning in the lathe, and vessels may be turned so thin as to transmit light.

Summits two, shaped like a horse-shoe, yellow. *Blossom* full yellow.

Perforated Yellow-wort. Yellow Centaury. Stiff clay or marly grounds. Mountainous meadows and pastures in a calcareous soil. [Near Bungay, Suffolk. Mr. WOODWARD. Side of Malvern Chace, Worcestershire. Mr. BALLARD. Edge of the Ridd Cliff, Worcestershire. St. Coalbrookdale. Mr. AIKIN. Ranton Abbey, Staffordshire. River side opposite to St. Vincent's Rocks.] A. June—Sept.

VACCINIUM. *Calyx* superior: *bloss.* 1 petal. *filaments* fixed to the receptacle: *berry* 4-celled, many-seeded; beneath; dimpled.

(1) *Leaves annual or deciduous.*

Myrtillus. V. Fruit-stalks 1-flowered; leaves serrated, egg-shaped; stem angular.

Dicks. h. s.—E. bot. 436—*Sheldr.* 18—*Fl. dan.* 974—*Kniph.* 8. *Matth.* 231—*Dod.* 768. 2—*Lob. obs.* 546. 2—*Ger. em.* 1415. 1—*Park.* 1456. 1—*Blackw.* 463.

Stamens ten. *Blossom* segments five. *Capsule* cells five. *Stem* and *branches* four-cornered. *Leaves* alternate, serratures blunt. *Berries* black. LINN. *Blossom* nearly globular, but a little flattened at the base; pale reddish purple; *mouth* very small, with five small reflected teeth; reddish white. *Berries* bluish black.

Bilberries. Black Worts. Black Whortle-berries. Wind-berries. Woods and heaths. [Portland Heath. Mr. CROWE. Rocks above Great Malvern, Worcestershire. Mr. BALLARD. The Bishop's Woods, near Eccleshall. Lightwoods, near Birmingham.] S. April—May.*

uliginosum. V. Fruit-stalks 1-flowered: leaves very entire, inversely egg-shaped, blunt, smooth.

E. bot. 581—*Kniph.* 9—*Fl. dan.* 231—*Clus. i.* 62. 1—*Ger. em.* 1416. 6—*Park.* 1456. 2.

* The first tender leaves cannot be distinguished from real Tea, when properly gathered, and dried in the shade. WILlich. The berries are very acceptable to children, either eaten by themselves or with milk, or in tarts. The moor game live upon them in the autumn. The juice stains paper or linen purple. Goats eat it; sheep are not fond of it; horses and cows refuse it. —(Slevogt reports this plant as growing to a very extraordinary size in Bohemia; frequently attaining four feet in height, with a stem an inch in diameter. E.)

Stems generally a foot high. *Leaves* when young fringed at the base, flat. *Berries* blue, with four slight angles, and a white pulp. LINN. *Leaves* with a network of veins underneath, sometimes slightly dented at the end, often tinged with red. Mr. WOODWARD. *Blossom* pink.

Great Bilberry Bush, or *Whortle Rash-berries*. Moistish woods, heaths and pastures, and tops of mountains. Between Hexham and Penrith. Forest of Whinfield, Westmoreland. Near Julian's Bower; Highland mountains. [Near Gamblesby, Cumberland. RAY. Mr. WOODWARD.] (Moist high woods about Gwydir, near Llanrwst. BINGLEY. The fells of Cumberland. Meldon Fell; and moor beyond Cronkley Fell, Durham. Rev. J. HARRIMAN, in *Bot. Guide*. E.) S. April—May.*

(2) *Leaves evergreen*.

V. Bunches terminating, nodding: leaves inversely egg-shaped; edge very entire and rolled back; dotted underneath. *Vitis-idæ'a*.

Dicks. h. s.—E. bot. 598—*Fl. dan.* 40—*Kniph.* 9—*Dod.* 770. 1—*Ger. em.* 1415. 2—*Park.* 1456. 4—*J. B. i. a.* 522.

Is seldom found in blossom. CURTIS. *Stems* obliquely ascending, scarcely a span high, cylindrical. *Leaves* alternate. *Berries* red. LINN. *Leaves* with deep veins above, which are equally prominent underneath: some much smaller leaves intermixed with the rest. WOODWARD. *Leaves* sometimes obscurely serrated towards the end. STOKES. *Floral-leaves* and *cups* coloured. *Filaments* very white, woolly. *Anthers* red, of two cells, each with a yellowish tube at the point. *Blossom* pale pink.

Red Whortle-berries. Cow Berry. Mountainous parts of Derbyshire, Staffordshire, and Yorkshire. RAY. Dry places in heaths, woods, and tops of mountains. LIGHTFOOT. And marshy heaths. HUDS. [Top of Skiddaw and Ingleborough. Mr. WOODWARD. Cannock Heath. Staffordshire, in a dry gravel. Dr. STOKES. Stiperstones, near Salop. Mr. AIKIN. Near Witton-le-Wear. Mr. ROBSON.] (Opposite to Liverpool, found by Mr. SHEPHERD. Snowdon and other mountains in Wales.—Cronkley Fell; and near Egleston, Durham. Rev. J. HARRIMAN, in *Bot. Guide*. E.) S. March—April.†

* Children sometimes eat the berries; but in large quantities they occasion giddiness, and a slight head ache, especially when full grown and quite ripe. Many vintners in France are said to make use of the juice to colour their white wines red. Horses, cows, sheep, and goats eat it; swine refuse it.

† The berries are acid, and not very grateful, but they are eaten by the Laplanders and by the country people, and are sent in large quantities from W. Bothnia to Stockholm for pickling. LINN. They are also made into tarts, rob, and jelly. Goats eat it; cows, sheep, and horses refuse it.

Oxycoccus. V. Fruit-stalks single, or in pairs: leaves egg-shaped, very entire, edges rolled back; stem thread-shaped, trailing, not hairy.

Dicks. h. s.—Fl. dan. 80—*E. bot.* 319—*Blackw.* 593—*Lob. obs.* 547. 3—*J. B. i. a.* 227. 2—*Dod.* 770. 2—*Ger. em.* 1419—*Park.* 1229—*Ger.* 1367.

Stamens sometimes ten. Mr. GOUGH. *Floral-leaves* two. LINN. *Fruit-stalks* red, semi-transparent, single or in pairs, one flower on each. *Calyx* smooth, fringed at the points, coloured. *Blossom* four distinct petals, rolled back to the base and falling off separate. *Anthers* two-celled, each ending in a hair-like tube open at the end. *Style* red, tubular. *Summit* an open hole. *Blossom* deep flesh colour. *Berry* pale red, mottled with purple dots; when fully ripe purplish red. *Schollera Oxycoccus*. GMEL. Syst. veg. In structure certainly different from the other *Vacciniums*, but as the *Schollera* of Gmelin seems different from the genus so named by Schreber, it was judged better for the present to let it remain with the *Vacciniums*.

Cran-berries. *Moss-berries.* *Moor-berries.* *Fen-berries.* *Marsh Whorts.* *Marsh Whortle-berries.* *Corn-berries.* Peaty bogs. In the North, frequent. (At Worlingham, near Beccles, Suffolk. Mr. WOODWARD.—Cronkley Fell, Durham. Rev. J. HARRIMAN. E.) Dersingham Moor, Norfolk. Mr. CROWE.—Sutton Coldfield Park, Warwickshire. RAY. STOKES.—Lincolnshire, in great quantities. Bishop's Woods, near Eccleshall, Staffordshire. Birmingham Heath.*

ERICA. *Cal.* 4-leaved: *bloss.* 4-cleft: *filaments* fixed to the receptacle: *anthers* cloven and perforated at the top: *caps.* 4-celled, 4-valved, many-seeded.

(1) *Anthers* simple, awnless: *leaves* alternate.

Daboe'cia. E. Leaves cottony underneath.

Dicks. h. s.—E. bot. 35—*Pet. gaz.* 27. 4.

* The berries made into tarts are much esteemed, but on account of a peculiar flavour, are disliked by some. They may be kept several years, if wiped clean, and then closely corked in dry bottles; or the bottles may be filled with water.—At Longtown, in Cumberland, twenty or thirty pounds worth are sold by the poor people every market day, for five or six weeks together. LIGHTFOOT. The most general name, Cranberry, probably originated from the fruit-stalks being crooked at the top, and before the expansion of the blossom, resembling the neck and head of a crane.

Bunch terminating, simple. *Flowers* alternate. *Pedicles* with one flower. *Floral-leaf* strap-shaped, at the base of each pedicle. *Calyx* only a fourth part as long as the blossom, falling off. *Blossom* cylindrical-oval; mouth a little contracted, four-cleft; segments bent back. It has the habit of *Andromeda*, but the numbers of *Erica*, LINN. *Leaves* generally alternate, sometimes opposite, or even three together; dark green above, white with cottony down underneath. *Calyx* one leaf, deeply divided into four spear-shaped segments. *Blossom* purplish red, flattened at the base, marked lengthwise with four slightly elevated ridges; segments spear-shaped, waved at the edge, rolled back.

Irish Worts or *Moorwort*. *Andromeda Daboecia*. LINN. Spongy wet uncultivated land on the mountains of Mayo and Hiar Connaght. RAY. (On Croagh Patrick in the County of Mayo. A. B. LAMBERT. Esq. *Fl. Brit. E.*) S. June—July.

(2) *Anthers* awnless: *leaves* 4 in a whirl.

E. *Anthers* and style projecting; *bloss.* bell-shaped; *fruit-va'gans.* stalks with 1 flower. E. bot.

E. bot 3.

Stems woody, spreading, branched, nearly cylindrical. *Leaf-stalks* very short, pressed close to the stem, glandular at the base. *Leaves* strap-shaped, blunt, pointed, edges rolled back so as to form a groove along the middle on the underside. *Flowers* axillary, numerous, mostly pointing one way. *Fruit-stalk* half the length of the flower, with a gland-like joint, and two floral-leaves. *Blossom* from dark purple to rose red, and sometimes white. *Anthers* colour of a mulberry, forked, projecting out of the blossom.

Cornish, or Double-tipped Heath. *Erica didyma*. Bot. arr. ed. ii. *Heaths*. Goonhelly Downs going from Helston to the Lizard Point, Cornwall. RAY. [Near Pendarvis, on the road from Camborn to Hoyle, in the low grounds between Tregothan and Connor Downs. Mr. STACKHOUSE.] (Heath between Axminster and Lyme. Miss WEBSTER, in *Bot. Guide*. Near Newton, Glamorganshire. EVANS. E.) P. June—Aug.

(3) *Anthers* with 2 smooth awns at the base; *leaves* 4 in a whirl.

E. *Leaves* oblong, fringed, cottony underneath; *flowers* Tetralix. in umbels; caps. fringed and cottony.

Dicks. h. s.—Curt.—E. bot. 1014—*Fl. dan.* 81.

(*Calyx* fringed, and furnished with two leaves or bracteas at its base. *Anthers* concealed, egg-shaped, spurred. *Stigma* globular. *E. bot. E.*) *Leaves* sometimes five in a whirl. *Blossom* pendent, pointing one way, from pale rose red to quite white.

Cross-leaved Heath. Moist heaths. [Norfolk. Mr. WOODWARD. Hartlebury Common, Worcestershire. Mr. BALLARD. —Worcestershire and Staffordshire. ST. Heaths and bogs near Manchester. Mr. CALEY.] (Childwall and Woolton Commons, near Liverpool. Dr. BOSTOCK. E.) P. July.

(4) *Anthers* with 2 tooth-serrated awns at the base; *leaves* opposite.

vulgaris. E. Leaves arrow-shaped.

Curt. 297—*E. bot.* 1013—*Kniph.* 11—*Walc.—Fl. dan.* 677—*Matth.* 152—*Fuchs.* 254—*Trag.* 952—*Dod.* 767. 1—*Ger. em.* 1380. 1—*Park.* 1482. 5—*Lonic.* i. 37. 1—*Ger.* 1196. 1. 2—*Park.* 1480. 1.

(*Anthers* shorter than the blossom; *style* longer. *E. bot. E.*) The *calyx* has close to its base four or five circular, concave, coloured *leaves*, fringed with soft hairs; and on the outside of these two or three others partly resembling these, and partly the leaves of the cup. *Proper cup* coloured, so as in every respect to resemble the blossom, which is of a pale rose colour, sometimes white, not distended; 4 or 5-cleft. *Seed-vessel* inclosed by the proper cup.

Common Heath. *Ling. Grig* in Shropshire. *Hether* in Scotland. Heaths and woods. S. June—Aug.*

* This plant, but little regarded in happier climates, is made subservient to a great variety of purposes, in the bleak and barren Highlands of Scotland. The poorer inhabitants make walls for their cottages, with alternate layers of Heath, and a kind of mortar made of black earth and straw, the woody roots of the Heath being placed in the centre, the tops externally and internally. They make their beds of it, by placing the roots downwards, and the tops only being uppermost, are sufficiently soft to sleep upon. Cabins are thatched with it. In the island of Ilay, ale is frequently made by brewing one part malt, and two parts of the young tops of heath; sometimes hops are added. Boethius relates, that this liquor was much used by the Picts. *Penn. Tour*, 1772. p. 229. Woollen cloth boiled in alum water, and afterwards in a strong decoction of the tops of Heath, comes out a fine orange colour. The stalks and tops will tan leather. In England besoms are made of it, and faggots to burn in ovens, or to fill up drains that are to be covered over. Sheep and goats will sometimes eat the tender shoots, but they are not fond of them. Bees extract much honey from the flowers, but where Heath abounds the honey has a reddish cast.—In the north of Scotland ropes are made of

Var. 2. Leaves and branches hoary.

[Envile Common, Staffordshire. Dr. STOKES. Birmingham Heath.]

(5) *Anthers with 2 tooth-serrated awns at the base: leaves 3 in a whirl.*

E. Leaves spear-shaped, entire, smooth; flowers in umbels; cine'rea. egg-shaped; cups finely serrated; branches woolly.

Curt.-E. bot. 1015-*Fl. dan.* 38-*Walc.-Chus.* i. 43. 2
Lob. obs. 620. 1-*Ger. em.* 1382-. 7-*Park.* 1483. 8-*Ger.*
1198. 7.

Stems woody. *Leaves* fleshy. *Blossom* bluish purple. *Style* crimson.

Fine-leaved Heath. Dry heaths and groves. [Heaths near Yarmouth. Mr. WOODWARD.—In Staffordshire and the North of Worcestershire. St. (Childwall and Woolton Commons; and Knot's-hole, near Liverpool, as common as *E. vulgaris*. Dr. BOSTOCK. E.) S. June—Aug.

POP'ULUS. Flowers male and female in catkins on distinct plants. *Calyx* scales ragged: *bloss.* turban-shaped, mouth entire, slanting. Female *summit* 4-cleft: *caps.* 2-celled; *seeds* many, downy.

P. leaves nearly triangular, toothed and angular; cottony al'ba. underneath.

Hunt. eval. 208; i. p. 201. *ed.* II.—*E. bot.* 1618-*Spect. de la Nat.* 31. 2. at ii. p. 292-*Nat. delin.* 20. 2. at ii. p. 312-*Matth.* 136-*Cam. epit.* 65-*J. B.* i. b. 160. 1-*Ger.* 1301. 1-*Dod.* 835-*Ger. em.* 1486. 1-*Park.* 1410. 1-*Lob. obs.* 609. 1-*ic.* ii. 193. 1-*Gars.* 467. *A. a.*

Tree very tall. *Leaves* without glands, either at the base or serratures. *Flowers* exactly similar to those of *P. tremula*. LINN. *Leaves* smooth and blackish green above, with a white thick cotton underneath. RAY. *Leaf-stalks* flattened, and grooved on each side. *Leaves* less circular than triangular.

it as strong, as durable, and nearly as pliant, as hemp. *Garnett's Tour.* p. 147.—(In Scotland this plant has been found by boiling, to afford a good liquor for tanning leather, by the use of which this manufacture is considerably cheapened and improved. E.)

White Poplar. Abele Tree. Hedges, woods, and near brooks. T. March.*

Var. 2. Leaves smaller. RAY.

Lob. ic. ii. 193. 2-Ger. em. 1487. 5-Park. 1410. 2-J. B. i. b. 160.2.

No place of growth mentioned either by Ray, or Lightfoot, who cites Gerard's figure. Dr. STOKES. (Fulbourne, Cambridge-shire. Rev. R. RELHAN. E.)

tre'mula. P. Leaves circular, toothed and angular, smooth on both sides.

E. bot. 1909-Kniph. 6-Blackw. 248. 2-Matth. 139-Cam. epit. 67-J. B. i. b. 163-Ger. 1302. 3-Dod. 836. 2-Lob. obs. 610. 1. and ic. ii. 194. 2-Ger. em. 1487. 3-Park. 1411. 4-Trag. 1083-Lonic. i. 26. 2.

Leaves rolled inwards, with two glands running one into the other on the inner side above the base. LINN. *Leaf-stalks* flattened towards the end, whence the trembling of its leaves. GOUAN. The same takes place in *S. alba* and *nigra*. The plane of the leaf-stalks is at the right angles to that of the leaves, which allows the leaves a much freer motion than could have taken place had their planes been parallel. ST. *Leaves* more circular than in the preceding.

Asp. Aspen Tree. Trembling Poplar. Moist woods, and in boggy ground. T. March—April.†

ni'gra. P. Leaves trowel-shaped, tapering to a point, serrated, smooth on both sides.

* It loves low situations, and flourishes best in clay. It grows quickly, and bears cropping, but it is unfavourable to pasturage. The wood is soft, white, and stringy, and makes good wainscoting, being but little subject to swell or shrink. Floors, laths, packing boxes, and turners' ware are made of it. Horses, sheep, and goats eat it. Cows are not fond of it.

† It will grow in all situations and in all soils, but worst in clay. It impoverishes the land; its leaves destroy the grass, and the numerous shoots of the roots spread so near the surface of the earth, that they will not permit any thing else to grow. It is easily transplanted. The wood is extremely light, white, smooth, woolly, soft; durable in the air. The bark of the young trees is made into torches. The leaves and leaf-stalks sometimes are set with red globular substances, about as large as a pea, which are the nests of the *Tipula juniperina*. Sheep and goats eat it; horses and swine refuse it. (Linnaeus informs us that the bark of this tree is a favourite food to Beavers. E.)

E. bot. 1910—*Blackw.* 548, and 248. 1—*Lonic.* i. 26. 1—*Matth.* 137—*Cam. epit.* 66—*Park.* 1410. 3—*J. B. i. b.* 155—*Lob. obs.* 609. 2. and *ic.* ii. 194. 1—*Dod.* 836. 1—*Ger. em.* 1486. 2—*Gars.* 467. *B. b.*—*Ger.* 1301. 2—*Trag.* 1080.

Leaves without any glands at the base, but the serratures glandular on the inner side. *Stamens* as many again as in *P. tremula*. LINN. *Stamens* 16. LEERS. *Leaf-stalks* yellowish.

Black Poplar. Near rivers and wet shady places.

T. March.*

DAPH'NE. *Calyx* generally none: *bloss.* 1 petal, regular, 4-cleft, funnel-shaped: *drupa* like a berry, 1-celled, superior.

D: Flowers sessile on the stem, mostly 3 together; leaves *Meze'reum*: spear-shaped, deciduous; berries globular.

E. bot. 1381—*Fl. dan.* 268—*Sheldr.* 62—*Ludw.* 63—*Blackw.* 582—*Kniph.* 1—*Woodv.* 23—*Fuchs.* 227—*J. B. i.* 566—*Dod.* 364. 2—*Lob. obs.* 199. 4—*Ger. em.* 1402. 2—*Park.* 202. 3.

The *terminating buds* produce leaves; the *lateral buds* flowers; which open very early in spring, often in winter; and are so thick set as entirely to hide the branches. Their colour a beautiful red. LINN.

Mezereon. *Spurge Olive.* *Dwarf Bay.* Woods near Andover, [and Laxfield, Suffolk. Mr. WOODWARD.—Needwood Forest. Mr. PITT.]—(Matlock, Chee Tor. Mr. COKE.—In divers parts of Cranbourne Chase. PULTENEY.—In Selborne Hanger, among the shrubs at the south end above the cottages. WHITE.—Mr. Woodward has recently informed me that this plant is no longer to be found near Laxfield. E.)

S. Feb.—March.†

* It loves a moist black soil; grows rapidly, and bears cropping. The wood is not apt to splinter. The bark being light like cork, serves to support the nets of fishermen. The red substances, like berries, upon the leaf-stalks as large as a cherry, bulging on one side, and gaping on the other, are occasioned by an insect called the *Aphis Bursaria*.—Horses, cows, sheep and goats eat it.—The several species support the following insects: *Sphinx Populi*, *Phalæna Vinula*, *Populi*, *fascelina*, Orange underwing Moth: *Aphis Populi*; *Chrysomela Polita*, *populi*; *Curculio Tortrix*; *Cimex Populi*; *Sphinx Apiformis*.

† An ointment prepared from the bark or the berries has been successfully applied to ill-conditioned ulcers. The whole plant is very corrosive; six of the berries will kill a wolf. A woman gave 12 grains of the berries to her daughter, who had a quartan ague; she vomited blood, and

- Laure'ola*. D. Bunches of about 5 flowers, axillary; leaves spear-shaped, smooth.

Jacq. austr. 183—*E. bot.* 119—*Walc.—Blackw.* 62—*Lob. obs.* 200. 1—*Ger.* 1404. 1—*Park.* 205. 1—*Ger.* 1219. 1—*Dod.* 365—*Lob. obs.* 200. 2, &c.—*J. B.* i. 564.

Bunches from the sides of the stem, nodding, clustered into an umbellule. *Floral-leaves* concave, alternate, without any flowers from their base. *Flowers* terminating the bunch. Blossom yellowish green. LINN.

Spurge Laurel, or *Laurel Mezereon*. Woods and hedges. [Common in Yorkshire. Needwood Forest; with a variety with variegated leaves. Mr. PITT.] S. March—April.*

- Cneo'rum*. D. Flowers terminating, sitting, crowded together; leaves spear-shaped, naked, with a point at the end; berry juiceless.

Gesner 3. 6—*Pollich.* 4—*Clus.* 90. 1—*Ger. em.* 1596. 4—*Park.* 201. 2—*Matth.* 46. 1.

Stems woody, trailing, branched; naked below and rough with the scars of leaves which have fallen off. *Leaves* crowded, irregularly disposed. *Flowers* reddish purple.

died immediately. LINN. A decoction made of 2 drams of the cortical part of the root, boiled in 3 pints of water till one pint be wasted: and this quantity, drank daily, is found very efficacious in resolving venereal nodes, and other indurations of the periosteum. See Dr. Russell's paper in the *Med. obs.* iii. p. 189—The considerable and long continued heat and irritation that it produces in the throat, when chewed, made me first think of giving it in a case of difficulty in swallowing, occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear to do it; and, in about two months, she recovered her power of swallowing. This woman bore the disagreeable irritation, and the ulceration its acrimony occasioned in her mouth, with great resolution; but she had been reduced to skin and bone, and for 3 years before had suffered extremely from hunger, without being able to satisfy her appetite: for she swallowed liquids very imperfectly, and solids not at all. The complaint came on after lying in.—*Daphne mezereum*, *Veratrum album*, and *Menispermum cocculus* are used by fraudulent brewers to communicate an intoxicating quality and strong taste to weak beer;—a practice worthy of execration; and here, and in many other countries, forbidden under severe punishment. *Month. Mag.* (Dr. Swediaur informs us that the antidote to the above named potent poison is camphor. E.)

* Very happy effects have been experienced from this plant in rheumatic fevers. It operates as a brisk and rather severe purgative. It is an efficacious medicine in worm cases; and upon many accounts deserves to be better known to physicians; but in less skilful hands it would be dangerous, as it is possessed of considerable acrimony. The whole plant has the same qualities, but the bark of the root is the strongest. Dr. Alston fixes the largest dose at 10 grains.

[Found by Mr. MEYRICK at the foot of Snowdon, about two miles from Beddgelart on the road leading to Caernarvon, not far from the place where the ascent to the summit of Snowdon begins.] S. May.

DIGYNIA.

CO'RYLUS. Male and Female flowers on the same plant; *bloss.* none.

Male. *Cal.* 1 leaf, 3-cleft, resembling a scale, containing 1 flower.

Fem. *Cal.* 2-leaved, ragged: *nut* egg-shaped.

C. *Stipulæ* spear-shaped; twigs hairy.

Avella'na.

E. bot. 723—*Blackw.* 293—*Hunt. eval.* 220; i. p. 213. *ed.* II. *Kniph.* 1—*Lonic.* i. 30. 1—*Trag.* 1096—*Matth.* 281—*Park.* 1415. 5—*Gars.* 223—*Spect. de la. Nat.* 32. 2. in ii. p. 292—*Nat. delin.* 20. 4. in ii. p. 312—*Lob. ic.* ii. 192. 2—*Ger. em.* 1438. 2—*Ger.* 1250. 2—*Fuchs.* 398.

The *styles* being of a vivid crimson have a very beautiful appearance in March, when the catkins expand. Mr. Woodward. *Catkins* in pairs, yellowish green. *Scale*, the middle segment pointed at the end. *Leaves* oval, serrated, wrinkled. *Catkins* green, when out of flower brown.

Common Hasel-nut Tree. Woods and hedges.

T. March—April.*

* It is frequently planted in hedges and in coppices, to make charcoal for forges. The owners cut them down in equal portions in the rotation of 16 years, and raise regular revenues out of them: often more than the rent of the land, for freeholders of 15l. or 25l. per ann. are known to make constantly 60l. a year from their woods. *Penn. Tour.* 1772. p. 29.—The wood is used for fishing rods, walking sticks, crates, hoops for barrels, &c. the shoots for springles to fasten down thatch. The roots are preferred where beautiful wood is required for inlaying or staining. It is a practice in Italy to put the chips of Hasel into turbid wine, to clear it, which it does in 24 hours; and in countries where yeast is scarce, the twigs of Hasel, twisted together, so as to be full of chinks; and steeped in ale during its fermentation; then hung up to dry, may be put into wort instead of yeast.—Painters and engravers prepare coals for delineating their designs thus; they take pieces of Hasel about the thickness of a man's arm, and four or five inches long, dry, and then cleave them into pieces about as thick as a finger. These they put into a large pot full of sand, and then cover the top of the pot with clay. This is exposed in a potter's oven, or any other sufficient degree of heat, and, when cooled again, the sticks are found converted into charcoal, which sketches freely, and easily rubs out again. The nuts are

OCTANDRIA. TRIGYNIA. Polygonum.

TRIGYNIA.

POLY'GONUM. *Cal.* none: *bloss.* resembling a cup with 5 divisions: *seed* 1, angular; generally naked.

(1) *Stem herbaceous; flowers with 5 stamens.*

amphi'bium. *P.* Style cloven; spike egg-shaped.

Var. 1. *aquaticum.* Leaves floating, blunt, very smooth; stamens shorter than the blossom.

E. bot. 436—*Kniph.* 9; called *P. Hydropiper*—*Ludw.* 168—*Pet.* 3. 12. 6—*Fl. dan.* 282—*Dod.* 582. 1—*Park.* 1254. 1 a—*H. ox. v.* 29. row 2. 1—*Ger. em.* 821. 2—*Park.* 1254. 2—*H. ox. v.* 29. row 1. 2. f. 4—*Ger.* 675. 2.

Leaves of a pleasant green, oblong-spear-shaped, glossy, surrounded at the very edge with a reddish line; the younger very minutely serrated. *Flowers* red.

Amphibious Persicaria. *Narrow-leaved Pond-weed.* Pools, lakes, marshes, and ditches. *P. July—Aug.*

Var. 2. *terrestre.* LEERS. Stem upright; leaves somewhat pointed, rough; stamens about as long as the blossom.

Curt. 223—*Pet.* 3. 12. a.

Leaves darker green.

Amphibious Snakeweed. In cultivated ground, but very seldom flowering, except in spots where water has settled. [On the side of a piece of water, the flowering stem growing on the land, and other branches from the same root floating in the water. *St.*] *P. Sept.*

(2) *Flowers with 6 stamens; capsule of 1 cell.*

Hydropi'per. *P.* Flowers with cloven pistils; stipulæ somewhat fringed; leaves spear-shaped.

Curt.—E. bot. 989—*Blackw.* 119—*Fuchs.* 843—*J. B.* iii. 780—*Pet.* 3. 5—*Matth.* 583.

The leaf-scale sheaths tight round the stem, lopped, torn, the ribs terminating in bristles forming a fringe. *Leaves* very

agreeable to most people. Squirrels live chiefly upon them. An expressed oil is obtained from them, for the use of painters.—Goats and horses eat the leaves; sheep and swine refuse them.—The Brindle Spider and December Moths; *Phalaena Populi*, *Pavonia*, *Psi*, *Gonostigma*, *Attelabus Coryli*; and *Curculio Nucum*, feed upon it.

thin, smooth on each side, edge very entire, but serrated as it were with bristles laid to the edge, and scarcely perceptible. LINN. *Leaves* spear-shaped, waved, not spotted. *Spikes* very slender, nodding. CURTIS. *Spikes* drooping, even before flowering. Mr. WOODWARD. Whole *plant* sprinkled with minute glandular dots, but even with the surface, and more obvious with a moderate than a higher magnifying lens, probably the seat of its very acrid property. *Spikes* long, slender, pendent. *Flowers* green, red towards the end. ST.

Water Pepper. Lakeweed. Biting Snakeweed. Watery places, on the sides of rivulets, lakes, and ditches.

A. July—Sept.*

P. Flowers with slightly cloven pistils; leaves strap-spear-shaped; stem creeping at the base.

Curt.—E. bot. 1043—*Lob. obs.* 171. 2—*Ger. em.* 446. 3—*Park.* 857. 4—*H. ox. v.* 29. row 3. 5. f. 1—*Pet.* 3. 6.

Stems several, 9 inches to a foot high. *Leaves* almost veinless, (and not undulated. E.) *Spikes* slightly nodding. *Style* sometimes slightly cloven into 3. CURTIS. *Leaves* not acrid. ST. *Spikes* slender, short; flowers few, (with 6 stamens. E. bot. E.) reddish. *Summits* 2, sometimes 3, (they, and not the styles, separated. E. bot. E.)

Creeping Snakeweed. Small Creeping Persicaria. Persicaria angustifolia ex singulis geniculis florens. R. Syn. 145. P. *Persicaria* β and δ . LINN. Moist and watery meadows. [Tothill Fields, Westminster. HUDSON. CURTIS. Gravel pit on Malvern Chase with P. *Hydropiper*. ST.]—(About Black-heath. E. bot.—Wet places at Elstow; and Goldington, Bedfordshire. ABBOT.—Morden Cars, near Darlington. Mr. WINCH.—On Cortesey Common, near Norwich. Dr. SMITH.—Filby Heath, Norfolk. Mr. D. TURNER.—Woodmansey, near Beverley. TEESDALE.—Banks of the Foss at York. Rev. Archdeacon PIERSON, in *Bot. Guide*. E.) A. Sept.

P. Styles 2; spikes egg-oblong; leaves spear-shaped; *Persicaria stipulæ* fringed.

* The whole plant has an acrid, burning taste. It cures little apthons ulcers in the mouth. It dyes wool yellow. The ashes of this plant, mixed with soft soap, is a nostrum in a few hands, for dissolving the stone in the bladder: but it may be reasonably questioned whether it has any advantage over other semi-caustic preparations of the vegetable Alkali. Its acrimony rises in distillation, and the distilled water drank to the amount of 2 or 3 half pints daily, has been found very effectual in some nephritic cases. Horses, cows, goats, sheep, and swine refuse it.

Kniph. 4-*Fl. dan.* 702-*Walc.-Curt.-E. bot.* 756-*Pet.* 3. 7-*Blackw.* 118-*Dod.* 608. 2-*Lob. obs.* 171. 1-*Ger. em.* 445. 1-*Park.* 857. 1-*Ger.* 361. 1-*Trag.* 90.

Pistils half cloven. *Fruit-stalks* smooth. *Stipulæ* fringed. *Spikes* egg-oblong, upright. *Flowers* of a bright rose-colour. *Germen* oval and flattened, or 3-square. *Style* often cloven half way down into three parts, and, when this is the case, the germen and seed are 3-square. *Seed* egg-shaped, and slightly convex on one side, or 3-square. **CURTIS.** *Leaves* nearly smooth, but with very minute bristles lying along the edge. *Leaf-scales* sheathing, ribbed. *Common fruit-stalks* springing from the sheathing leaf-scales at the joints of the stem. *Flowers* 3 or 4 together, included in a membranaceous fringed sheath, on short fruit-stalks of different lengths, which are again inclosed by skinny sheaths. *Blossom* segments concave, unequal. *Stamens* sometimes 5 and 7. *Anthers* sometimes two upon one filament. *Style* cloven nearly half way down. *Summits* globular.

Dead or Spotted Persicaria. *Spotted Snakeweed.* Ditches, on the side of water, and not unfrequently in corn fields.

A. July—Sept.*

pal'lidum.

P. *Pistils* 2; *stipulæ* not fringed; *fruit-stalks* rough with glands; seeds depressed on each side. **CURT.**

Curt.-E. bot. 1382-*Lob. ic.* 315. 1-*Pet.* 3. 11-*Fuchs.* 630-*Trag.* 91-*J. B. iii.* 779. 2-*Lonic. i.* 162. 1-*Dod.* 608-*Ger. em.* 445. 2-*Park.* 857. 2-*H. ox. v.* 29. row 2. 2.

Stem upright, 3 feet high, of the thickness of a finger. *Leaves* of a palish green, with a kind of mealiness, sometimes spotted, sometimes not. *Spikes* thicker than those of *P. Persicaria*, heavy, and, in consequence of their weight, often hanging down. *Seeds* larger than those of *P. Persicaria*. **RAY.** *Stem* cylindrical, smooth. *Leaves* egg-spear-shaped, smooth above; the uppermost dotted underneath with minute glands, the lowermost covered with a kind of down; sometimes with, and sometimes without spots. *Leaf-stalks* hairy underneath, with a slight roughness to the touch. *Leaf-scales* more strongly ribbed than in *P. Persicaria*. *Fruit-stalks* beset with minute yellowish globular glands, on exceedingly short foot-stalks. *Spikes* oval, when the seeds are ripe drooping. *Flowers* greenish, set close together. *Seed* flat, with a depression in the middle of each

* Its taste is slightly acid and astringent. Woollen cloth dipped in a solution of alum obtains a yellow colour from this plant. Goats, sheep, and horses eat it. Cows and swine refuse it. **LINN.**

side, sometimes obtusely triangular. CURTIS. *P. lapathifolium* Sp. pl. according to Sibthorpe; but it does not agree with Ray's description of that plant, see *Ray Hist.* iii. 119, nor are the stamens as tall as the blossom, though it is well represented by the figure in *Lob. ic.* 315. 1. which is also quoted by Linnæus. *P. pensylvanicum*. CURT. and HUDS. ed. i. but not the *P. pensylvanicum* of LINN.

Pale-flowered Persicaria. Pale-flowered Snakeweed. Polygonum lapathifolium. Fl. Brit. Dunghills, corn fields, and sometimes by the side of water. A. Aug.

Var. 2. Stem and flowers red, but not so beautifully bright as those of *P. Persicaria*. Like the preceding in every other respect. CURTIS.

Dunghills with var. 1, and also in corn fields.

Var. 3. Stem spotted with red. CURTIS.

Curt. P. pens. caule maculato.

Comes near to a distinct species. Stem spotted with red. Spikes much slenderer, even more so than those of *P. Persicaria*, red, but not so bright as those of the *Persicaria*. Leaf-stalks rough, underneath. Leaves generally white underneath. If not attentively examined will be taken for the *P. Persicaria*, CURTIS. Spikes of a dull rusty red on the side opposed to the sun, pale green on that not exposed to the sun. Flowers when in blossom whitish green, becoming tinged more or less with red as the seed advances to maturity. Stem like that of *P. persicaria*, and *pallidum*, spotted with small oblong spots. Leaves, the upper smooth and dotted underneath; the lower spread over with a thin bluish white down, not dotted. Leaf-stalks of the lower leaves smooth. Spikes oblong, and egg-oblong.

P. Persicaria. POLLICH. LEERS. η . δ . HUDS. Ditches about St. George's Fields often with *P. Persicaria*, and on the watery parts of Blackheath and Peckham Rye. Dunghills, and in a ditch on Stourbridge Common. St. A. Sept.*

Var. 4. Leaves hoary underneath. RAY.

Pet. 3, 8.

Willow-leaved. Corn fields, and other situations where the soil is not very rich.

(3) *Flowers with 8 stamens and 3 pistils: spike single: stem undivided.*

* Sparrows and other small birds are very fond of the seeds of all the varieties. CURT.

Bistor'ta. P. Leaves egg-shaped, extended at the base along the leaf-stalks.

E. bot. 509—*Ludw.* 31—*Kniph.* 1—*Curt.—Blackw.* 254—*Mill.* 66—*Fl. dan.* 421—*Woodv.* 34—*Sheldr.* 111—*Clus.* ii. 69. 1—*Dod.* 333—*Lob. obs.* 156. 3—*Ger. em.* 399. 1—*H. ox.* v. 28. row 3. 2—*Matth.* 946—*Park.* 392. 1—*Fuchs.* 773—*Trag.* 321—*J. B.* iii. 539. 1—*Lonic.* i. 202. 3—*Fuchs.* 774—*J. B.* iii. 538—*Ger.* 322. 1 and 3.

Upper-leaves arising from long sheaths inclosing the stem. **Mr. WOODWARD.** *Sheaths* of the leaf-stalks sometimes rising above the insertion of the leaf-stalks to half the length of the leaves. **St.** *Root-leaves* extended down the leaf-stalks. *Stem-leaves* sheathing the stem. *Flowers* in a spike. *Common calyx* of two valves, skinny, the one large, lopped, the other smaller and terminated by a skinny projection. *Flowers*, two within each common calyx, one of them on a fruit-stalk, the other sitting, surrounded with a kind of proper cup, thin, skinny, nearly cylindrical; *mouth* even and very entire. *Blossom* with 5 divisions, pale red. *Anthers* double, the two parts being only united by the filaments.

Great Bistort, or *Snakeweed*. Moist meadows in the northern counties. Bishop's Wood near Hampstead; and Battersea Brome, Norfolk, (and Shipmeadow, Suffolk. **Mr. WOODWARD.** —Ham Green near Mathon and Martley, Worcestershire. **Mr. BALLARD.** Near Derby. **Mr. WHATELY.** Near the Infirmary, Stafford. In the Garlic Meadows, near Penn's Mill, Erdington, Warwickshire. E.) P. May—June.*

vivi'parum. P. Leaves spear-shaped; spike terminating.

E. bot. 669—*Fl. dan.* 13—*Kniph.* 2—*Clus.* ii. 69. 2—*Ger. em.* 399. 2—*Park.* 392. 4—*Ger.* 322. 2—*J. B.* iii. 539. 2—*Pluk.* 151. 2.

Lower flowers of the spike frequently changed into vegetating bulbs. **LINN.** *Stem-leaves* strap-shaped, arising from a sheath. *Sheaths* inclosing the stem, terminated by a blunt membrane. **Mr. WOODWARD.** *Bulbs* darkish purple, egg-shaped, sometimes intermixed with the flowers, mealy and white within. **St.** *Blossom* whitish.

* The root is one of the strongest vegetable astringents. The young shoots are eaten in herb pudding in the north of England. **St.** and about Manchester they are substituted for greens, under the name of *Patience Dock*. **Mr. CALEY.** (**Mr. Hermstaedt**, of Berlin, has discovered that this plant will tan leather effectually, and with much smaller quantity than is necessary of Oak bark. E.)

Small Bistort. Viviparous Snakeweed. Welch Bistort. Alpine Bistort. Mountainous pastures. Crosby Ravensworth, and other places in Westmoreland; near Settle, Yorkshire; and in Scotland. [Edge of Semer Water at Carr End, Wensleydale. CURTIS. In the fields between Shap and Hardingdal, Westmoreland. Mr. GOUGH.] (Near the top of Ben Lomond. *Fl. Brit. E.*) P. June—July.*

Var. 2. HUDS. Root-leaves roundish and minutely serrated. Stem about 4 inches high. RAY.

H. ox. v. 28. 3. and 5—Park. 392. 6.

Pastures on a high rock called y Grib Goch, above the Lake Ffynnon Frech near Llanberis.

(4) *Flowers with 8 stamens and 3 pistils: spike single: stem branched.*

P. Flowers axillary: leaves spear shaped; stem trailing. aviculare

Var. 1. *latifolium. RETZ.* Broad leaved.

Curt. 1. 10—E. bot. 1252—Fuchs. 614—J. B. iii. 375. 1—Trag. 391—Blackw. 315—Fl. dan. 803—Matth. 951—Dod. 113. 1—Lob. obs. 228. 3—Ger. em. 565—Park 443. 1—H. ox. v. 29. row 3. 1—Pet. 10. 1—Ger. 451—Lon. i. 168. 3—Walc. 5, Convolvulus.

Stem scored, thickest at the joints, and separating when pulled. Leaves, some egg and some spear-shaped. Flowers two or three together, in the bosom of the leaves. Fruit-stalks short, but two of them longer. Calyx double, skinny; the outer with five spear-shaped segments inclosing the three florets; the inner incloses only the third floret, and sometimes the rudiment of a fourth. Blossom greenish on the outside, white within, often tinged with pink.

Knotgrass Snakeweed. Road sides, paths, streets, corn fields, especially in a gravelly soil. A. or B. April—Sept.†

Var. 2. *brevifolium. RETZ.* Leaves oblong: stamens 7.

Ger. 451. 2—Pet. 10. 3.

Leaves about one-fourth of an inch long.

* Plants cultivated for four years in a garden constantly produced perfect seeds in July, and flowered as constantly a second time in September. These latter germs vegetated on the stem. Mr. GOUGH.

† The seeds are useful for every purpose in which those of the next species are employed. Great numbers of small birds feed upon them. Cows, goats, sheep, horses and swine eat it. The stubbles in Sweden are purpled over with this plant. LINN. It affords nourishment to the *Chrysomela Polygoni*.

OCTANDRIA. TRIGYNIA. Polygonum.

In gravelly spots, and road sides. Sandy road near Ingestre Heath, Staffordshire. St.]

Var. 3. *angustifolium*. RETZ. Leaves strap-shaped.

Pet. 10. 2.

Leaves very slender.

Camberwell, and amongst corn in Houndfield by Pounders-end. RAY.

Var. 4. HUDS. Leaves oval.

Pet. 10. 2.

Uncultivated places. RAY. [Near Coleshill, Warwickshire, St.]

Obs. No plant varies more in the shape and size of the leaves, from strap-shaped to oval, and in breadth from a line to half an inch. Mr. WOODWARD.

Var. 5. HUDS. *P. maritimum*. Stamens 8; styles three; flowers axillary; leaves oval egg-shaped, evergreen; stem somewhat shrub-like. LINN.

J. B. iii. 377. 1. *Pet.* 10. 5—*H.* v. 29. row 3. 3—*Lob. adv.* 179.

So nearly allied to *P. aviculare* as scarcely to be distinguished from it. *Flowers* in fours. *Stem* flattened on one side, shorter, hard, perennial. *Leaves* egg-shaped, leather-like, turning bluish in drying. LINN.

S. LINN.

(5) *Leaves* somewhat heart-shaped.

Fagopy'rum. P. Leaves heart-arrow-shaped; stem nearly upright; without prickles: angles of the seeds equal.

E. bot. 1044—*Dod.* 512—*Lob. obs.* 513. 3—*Ger. em.* 89—*Park.* 1141—*H. ox.* v. 29. row 1. 1, f. 1—*Pet.* 2. 12—*Trag.* 648.

J. B. ii. 993—*Ger.* 82. 2—*C. B. th.* 530—*Lonic.* i. 253. 1 and 2.

(Five of the eight stamens bear anthers whose lobes are separated by a short bar. All the filaments have yellow glands between them. The three styles are divided to the very base. *E. bot.* E.) Blossom purplish white. Flowering spikes shorter than the leaves.

Buck Wheat. Snakeweed. Branks. French Wheat. Corn fields.

A. July—Aug.*

* This plant is very impatient of cold, dying at the first attack of frost. The seeds furnish a nutritious meal, which is not apt to turn acid upon the stomach. It is made into thin cakes in some parts of England, called

P. Leaves heart-shaped; stem twining, angular; flowers convolvulus-blunted.

Curt. 253—E. bot. 941—Fl. dan. 744—Ger. 713. 4.

¹ Leaves arrow-shaped, (alternate, on foot-stalks, E.) the angles at the base sometimes lopped. Flowering spikes longer than the leaves. Blossom greenish white, (in terminal interrupted spikes, each on a little stalk: E.) Anthers red.

Black Bindweed. Climbing Snakeweed. Corn fields, gardens, and hedges. A. June—Sept.*

TETRAGYNIA.

PARIS. Calyx 4-leaved: petals 4, narrower; berry 4-celled.

P. Stem-leaves generally 4.

quadrifo'lia.

Kniph. 12—Fl. dan. 139—E. bot. 7—Blackw. 286—Matth. 1093—Död. 444—Lob. obs. 137. 2—Ger. em. 405. 1—Ger. 328. 1—Pet. 44. 8—Fuchs. 87—J. B. iii. 613—Park. 390. 1—H. ox. xiii. 3, 6.

Root somewhat fleshy. Stem naked. Leaves shining. Flower 1. LINN. Leaves from one to seven; plants with one, two, three, and four leaves barren; with from three to seven bearing a flower. Calyx sometimes with only three leaves. Mr. CALEY. Leaves mostly four, egg-shaped, tapering to a point, fixed to the top of the stalk. Styles purplish black, hardly so long as the berry. Blossoms pale green.

Herb Paris. One-berry. Four-leaved True-love.—Woods and shady places. Wood near the Devil's Den near Clifton upon Teme, Worcestershire. Mr. BALLARD. Woods on the sides of Breedon Hill, Worcestershire. NASH. Ripton Wood, Huntingdonshire. In Norfolk, rare. Mr. WOODWARD. Love Lane, near Derby, Mr. WHATELY. Wood of Methven, Perthshire. Mr. MILLAR. Near Gainford, and in

Crumpits. It is usual with farmers to sow a crop of Buckwheat, and to plough it under, when fully grown, as a manure to the land. The seeds are excellent food for poultry. Sheep that eat this plant become unhealthy. As it flowers late in the summer, M. Du Hamel, in his observations upon the management of bees, advises to move the hives in the autumn, to a situation where plenty of this plant is sown. Cows, goats, and sheep eat it; swine and horses refuse it.

* The seeds are quite as good for use as those of the preceding species, are produced in greater quantity, and the plant bears cold better. Cows and goats eat it: sheep, swine, and horses refuse it LINN. A horse eat it Sr. The *Phalena Lubricipeda* is found upon several of the species.

OCTANDRIA. TETRAGYNIA: Adoxa.

Raby Park. Mr. ROBSON. (In plantations near Bostock House, Cheshire. Dr. BOSTOCK. Woods at Hawnes; and Renhold; Clapham Park wood; Bedfordshire. ABBOT. Bank Wood; Naworth Woods; and road sides between Hutton Moor and Perith. HUTCHINSON. Isell Wood, Cumberland, near the river. Rev. J. DODD. Bot. Guide. Among the thickets on the North side of Garregwen Rocks, Denbighshire, and on the opposite side the rivulet. Mr. GRIFFITH. E.) About Frankly, Worcestershire. P. May.—June.*

ADOX'A. *Cal.* cloven; beneath: *bloss.* 4 or 5-cleft; superior: *berry* 4-celled, united to the calyx.

Moschatel'-
lina.

Dicks. h. s.—E. bot. 453—*Fl. dan.* 94—*Curt.* 137—*Kniph.* 8 J. B. iii. 206—*H. ox.* iv. 28. 14—*Walc.—Ger.* 933. 10—*Park.* 62. 1—*Lob. adv.* 300. 1. and *ic.* i. 674. 2—*Ger.* 1091. 10—*Park.* 326. 6.

Root-leaves generally four, alternate from two rows, doubly three-fold: *leaflets* lobed, cut, smooth. *Leaf-stalks* channeled. *Stem* of the length of the leaves, undivided, nearly four-square. *Stem-leaves* two, opposite, three-fold; *leaflets* on leaf-stalks. *Fruit-stalks* quadrangular, bare, terminating. *Head* four-cornered, composed of four flowers in a whirl, with a 5th at the top. *Flowers* green. LINN. *Root-leaves* triply three-fold; *leaflets* three-lobed. The *calyx* in the uppermost flower has only two lobes, the blossom four-cleft, the stamens eight, and the pistils four; but the lateral flowers have a three-cleft calyx, a five-cleft blossom, ten stamens, and five styles. *Berry* green, reddish when quite ripe.

Tuberous Moschatel. Damp woods and shady places, not uncommon. [In the wood on the S. W. side of the Pool at Edgbaston, plentiful. In the woods to the North of Aston Park, near Birmingham.] P. April—May.

ELA'TINE. *Cal.* 4-leaved: *petals* 4: *caps.* 4-celled, 4-valved, flattened.

(Hydropi'per. E. Leaves opposite, stem striking root, very much branched.

* The leaves and berries are said to partake of the properties of Opium. The juice of the berries is useful in inflammations of the eyes. Linnæus says the roots will vomit as well as Ipecacuanha, but it must be given in a double quantity.

Fl. dan. t. 156.—*E. bot.* 955.—*Vaill. Paris.* 5. t. 2. f. 1, 2.

This plant has the general appearance of the *Montia fontana*. Root fibrous, white. Plant very smooth, often growing under water. Stems very much branched, spreading, striking root, leafy, about two inches long. Leaves opposite, battledore-shaped, very entire. Blossoms axillary, solitary, on fruit-stalks, white, or rose-coloured, generally closed, and, with us, three-cloven, having six stamens, three pistils; though sometimes, on the same plant four cloven, with eight stamens, and four pistils. Seeds numerous, small, oblong, curved, angular, prettily striated across. *Fl. Brit.*

Small Waterwort. On the sandy shores of lakes and ponds. Inserted on the authority of the Rev. Mr. WILLIAMS, (in *Fl. Brit.*) who discovered it about the Eastern shore of Bomore Pool, near Condover, Shropshire. A. Aug. E.)

QUER'CUS. Male and Fem. Flowers on the same plant. *Bloss.* none.

Male *Calyx* 5-cleft: *stamens* from 5 to 10.

Fem. *Cal.* 1 leaf, very entire, rough: *styles* from 2 to 5: *nut* egg-shaped, leather-like, of 1 seed, and, when ripe, of 1 cell.

Q. Leaves on leaf-stalks, oblong, broadest towards the ro'bur. end, indentations rather acute, angles blunt; fruit nearly sitting.

E. bot. 1845—*Ludw.* 69—*Hunt. evel. p.* 69—*Woodv.* 126—*Gars.* 480—*Dod.* 823. 1—*Lob. obs.* 582. 3, and *ic.* ii. 154. 2—*Ger. em.* 1340. 2—*Park.* 1390. 1—*Lob. obs.* 583. 2. and *ic.* ii. 155. 2—*Kniph.* 3—*Matth.* 204—*J. B. i. b.* 85—*Lob. obs.* 583. 1—*ic.* ii. 155. 1—*J. B. i. b.* 88—*Ger.* 1156. 1—*J. B. i. b.* 70. 2—*Lonic.* i. 31. 2—*Fuchs.* 229—*J. B. i. b.* 70. 1—*Trag.* 1102—*Spect. de la nat.* 25. 1, at ii. p. 283—*Nat. delin.* 17. 1; at ii. p. 311.

Leaves and flowers appear later than in the next species. Fruit later. Acorns four to twelve together, on some trees, egg-shaped, in others oblong, taper-pointed. Wood reddish, brittle. Du Roi. Leaves deeper green, and not so deeply indented. RAY. Frequently retains its leaves all winter. Mr. WOODWARD.

Sessile-fruited Oak. *Q. sessiliflora.* *Fl. Brit.* *Q. robur.* Hull. Abbot. Willden. *Q. Robur* β. HUDS.—*Q. latifolia mas,* quæ

brevi pediculo est. R. Syn. 440.—*Bay-Oak* about Newberry. R. Syn. Bagley-Wood, and other places. BOBART in R. Syn.—Common but less so than the next species. Mr. WOODWARD. T. April.

foemina. Q. Leaves oblong, on short leaf-stalks, blunt, wing-cleft with indentations: fruit mostly solitary, on long fruit-stalks.

E. bot. 1342—Fl. dan. 1180.

Leaves not so deeply indented, nor the indentures so irregular, as in the preceding, but opposite. Trees raised from acorns of this sort produced acorns and retained all the marks of their parent tree. MILL. *Leaves* of a deeper green than in the preceding and narrower towards the end. *Acorns* from one to three joined together. *Wood* whitish, hard. DU. ROY. Male fl. *Calyx* 6 to 3-cleft nearly corresponding to the number of stamens. *Stamens* seven to nine, but mostly eight. Fem. fl. *Calyx* tiled, composed of about twenty spear-egg-shaped membranaceous coloured leaves. *Styles* mostly 3, bent back. ST. In the midland counties the fruit-stalks are five or six times as long as the leaf-stalks.

Oak Tree. British Oak. Q. robur. Fl. Brit. and E. bot. By the Boat-house in Edgbaston Park.

Quercus Robur α. HUDS.—Woods and hedges. [Not so common as the Q. Robur, but in the wilds of Kent and Sussex I have seen many large trees of it. Its timber is accounted better than that of the Q. Robur. MILL.] T. April.

Some of the figures referred to under the preceding species belong to this, particularly that of Hunter's Evelyn's Sylva, but in general they are so ill drawn, and with so little attention to the specific differences, that it is hardly possible to refer them with any degree of certainty. The following remarks also belong to both species.*

* The Oak loves hilly better than boggy ground, and thrives best, while young, in large plantations. Its roots descend deep into the earth, and therefore will not bear to be transplanted. Much lopping destroys it. Grass will hardly grow beneath it.—The wood is hard, tough, tolerably flexible; not easily splintering; and therefore is preferred to all other timber for building ships of war. It is well adapted to almost every purpose of the carpenter; but an attempt to enumerate all the uses of this well known tree, would be equally superfluous and difficult:—Oak saw dust is the principal indigenous vegetable used in dying fustian. All the varieties of drabs, and different shades of brown, are made with Oak saw-dust, variously managed and compounded.—The balls or Oak-apples are likewise used in dying, as a substitute for galls. The black obtained from them, by the addition of copperas, is more beautiful than that from galls, but not so durable.—The bark is universally used to tan leather. Its astringent properties may be turned to good account in many medical indications. An infusion of it with a small quantity of copperas, is used

RHODIOLA. Male and Fem. flowers on different plants. *Cal.* with 4 divisions.

Male. *Bloss.* 4 petals.

Fem. *Bloss.* none: *nectaries* 4: *caps.* 4, many-seeded.

R

ro'sea.

by the common people to dye woollen of a purplish blue; the colour, though not very bright, is durable. The balls or galls upon the leaves, are occasioned by a small insect with four wings, called *Cynips quercu folii* which deposits an egg in the substance of the leaf by making a small perforation on the under surface. The ball presently begins to grow; and the egg in the centre of it changes to a worm; this worm again changes to a nymph, and the nymph to the flying insect with four wings.—Horses, cows, sheep, and goats eat the leaves. Swine and Deer fatten on the acorns.

The *Papilio Iris*, *Quercus*; *Phalæna Vinula*, *Quercus*, *Monacha*, *dispar*, *chrysorrhæa*, *pudibunda*, *Oo*, *lubricipeda*, *quadra*, *pacta*, *Psi*, *Bucephala*, *Lacertinaria*, *Viridana*, *Prasinana*, *Amataria*, *Phalæna nupta* and *Vindata*; *Cynips Quercus Baccæa*, *Quercus folii*, *Quercus petioli*, *Quercus Gemmæ*; *Chermes Quercus*; *Aphis Quercus*; *Curculio Quercus*, feed upon it. LINN.
—An Oak tree in the parish of Little Shelslea, Worcestershire, measured in circumference about two yards from the ground 22 feet 4 inches, and close to the ground nearly 48 feet. Mr. HOLLEFEAR.—In one growing in 1764, in Broomfield Wood, near Ludlow, Shropshire, the trunk measured 68 feet in girth, and 23 in length, and which, allowing 90 square feet for the larger branches, contained 1455 feet of timber. LIGHTFOOT.—The girth of the Green Dale Oak, near Welbeck, at 11 feet from the ground, was 38 feet; and one growing at Cowthorpe, near Wetherby, Yorkshire, measured 48 feet in circumference at 3 feet from the ground, and 78 feet close to the ground. HUNT. *vel.* with a figure of the former at ii. p. 200, and of the latter at p. 197. In the year 1757, an Oak in Earl Powis's Park near Ludlow, measured 16 feet 3 inches at 5 feet from the ground, and its trunk rose full 60 feet quite straight and clear of branches. Bath. Soc. i.
Mr. MARSHAM.—(An Oak called the King, growing in Wynnstay Park, North Wales, measures 30 feet in circumference, several feet from the ground. In a rich soil and suitable climate the Oak nearly triples its value of timber in the course of about nine years. An Oak properly cleared and trained from the acorn, will in 53 years increase to 50 feet round measure, and square to above 70 feet, and be fit for the King's dock-yards. Experiments by the Rev.—HILL, made at East Peckham, in Kent. The Oak derives its chief nutriment from the *tap-root*, which descends at right angles to the horizon, much attention must therefore be paid to preserve the *tap-root* from injury. Previously to planting acorns in the month of March, *loosen* the earth by *deep trenching*: never *transplant* the saplings intended for timber; keep the plant carefully *pruned* till arrived at a proper height. The plants must be kept very clean from weeds, in October they must be thinned. A loam or marl soil is best for Oaks. Rev. R. YATES. An account of some curious experiments on acorns may be seen in the Month. Mag. v. 27. p. 148. by Mr. J. Browell, who reports the growth of Oak plants from acorns suspended in water, and remarks that although some few vegetables have been raised without the medium of earth, a tree has probably never been before so produced. E.)

OCTANDRIA. TETRAGYNIA. *Myriophyllum*.

E. bot. 508—*Fl. dan.* 183—*Blackw.* 586—*Matth.* 1024—*Clus.* i. 65. 1—*Dod.* 347. 2—*Lob. obs.* 212. 3; *ic.* i. 391. 1—*Ger. em.* 532—*Park.* 727—*H. or.* xii. 10. 8—*Pet.* 42. 2—*Kniph.* 2—*Ger.* 426—*Cam. epit.* 769—*Fuchs.* 665—*Trag.* 913—*J. B.* iii. 683—*Lonic.* i. 62. 1.

A female plant cultivated by itself in a garden produced small unproductive seeds. *LINN.* *Nectaries* 5. *Stamens* 6, 8, or 12. *FABRIC.* (It varies with blossoms 5 cloven. *Fl. Brit. E.*) *Stems* numerous, simple, four to ten inches high, cylindrical, smooth, hollow. *Leaves* numerous, growing without order, egg-shaped, egg-spear-shaped, and in the younger plants spear-shaped; upwards distantly serrated, towards the base very entire, fleshy, sea-green, sometimes tinged with purple. *Stamens* much longer than the blossom. *Styles* very short, pointing outwards permanent. Habit that of *Sedum Telephium*. *Root* white. *Stem* simple, upright, leafy. *Leaves* serrated. *Blossoms* terminating, yellow.

Yellow Rose-wort. Rose-root. Mountains of Westmoreland, Cumberland, Yorkshire, and Wales. [On a rock on the summit of Ingleborough, to the North West; and on a mountain called the Old Man, at Conistoun Water Head. *MR. WOODWARD.*—High-street, Westmoreland, on the edge of a precipice called Blea Water Cragg. *MR. GOUGH.*—Near *MR. RIGGE'S* slate quarry, in Conistoun. *MR. JACKSON.*]—(Rocks of Cwn Idwel, Iscoliondûon, Caernarvonshire. *MR. GRIFFITH.*—Abundant on the ridge of rocks, immediately above Llyn Fynnon Lâs, Caernarvonshire. *MR. DAWSON TURNER.*—Maes Beck, Durham. *MR. J. JANSEN,* in *Bot. Guide.*—Maze Beck Scar, near Appleby. *REV. J. HARRIMAN, ditto. E.*) P. May—July.*

MYRIOPHYLLUM. Male and Fem. flowers frequently on the same plant. *Cal.* 1 leaf, 4-toothed: *petals* 4, with claws: soon falling off: *styles* none: *nuts* 2 to 4, covered with a coat.

spica'tum. M. Spikes interrupted, leafless.

E. bot. 83—*Fl. dan.* 681—*C. B. pr.* 73. 1—*Park.* 1257. 7—*J. B.* iii. 783. 1—*Pet.* 6. 5.

* The root has the fragrance of a Rose, particularly when dried; but cultivated in a garden, it loses most of its sweetness. Goats and sheep eat it. Cows and swine refuse it. (The root furnishes an astringent medicine. *E.*)

Flowering Spike rising above the water. *Whirls* six or eight, the upper of male flowers, somewhat crowded, the lower of female flowers more distant. *Petals* oval, concave, purplish without, shedding. *Summits* expanding crosswise. Mr. WOODWARD. *Stems* simple, or branched; divided within into about 16 hollow cells. *Leaves* winged, fan-shaped, four in a whirl. *Leaflets* awl-shaped. *Flowers* four in a whirl; the males the uppermost, and some of them containing the rudiments of four germens.

Spiked Water-Millfoil. Feather Pondweed. Ditches, ponds, lakes and still water. P. May—July.

Var. 2. HUDS. Broadish entire leaves at the base of the whirls. BOBART in *H. ox.*

M. Flowers in leafy whirls.

verticilla-
tum.

Fl. dan. 1046—*E. bot.* 218—*Clus.* ii. 252. 1—*Park.* 1256. 3—*J. B.* iii. 783. 2—*Pet.* 6. 8.

In muddy ditches, with little water, it appears as follows. *Stems* six or eight inches high, unbranched. *Leaves* not more than an inch long; leaflets one and half or two lines long. In ponds as follows. *Stems* branching, two feet and more long. *Leaves* under water one inch and half to two inches long; leaflets half an inch long, hair-like and slender. *Spike* six or seven inches long, with twelve to sixteen or more whirls, the lower ones about half an inch distant, the upper nearer, with four or five winged leaves at each whirl, about half an inch long, leaflets about one line long. *Flowers* in the bosom of the leaves, similar to those of *M. spicatum*; those of the upper whirls usually male; those of the lower female; and sometimes the upper male, the middle one hermaphrodite, and the lower female. Mr. WOODWARD. *Flowers* greenish. *Anthers* yellow.

Whirled Millfoil. Ditches and stagnant waters. HUDS.—Rare. PET.—Ditches near Bungay, Suffolk, and near Yarmouth. The large sort in a pond at Hedenham, Norfolk, on a strong clayey soil. Mr. WOODWARD.]—(Both species at Bootle and Little Crosby, near Liverpool. Dr. BOSTOCK and Mr. SHEPHERD. E.) P. June—July.

CLASS IX.

ENNEANDRIA.

DIGYNIA.

MERCURIA'LIS. *Flowers*, male and female on distinct plants: *Cal.* with 3 divisions: *Bloss.* none.

M. *Stem* 9 to 12; *Anthers* globular; double.

F. *Caps.* 2, united; each with 1 cell and 1 seed.

[*Quercus.*]

HEXAGYNIA.

BU'TOMUS. *Involucr.* simple, of 3 leaves: *Bloss.* 6 petals: *Caps.* 6: *Seeds* many.

HYDRO'CHARIS. *Flowers* male and female on distinct plants: *Cal.* 3-cleft: *Bloss.* 3 petals.

M. *Sheath* 2-leaved: *Filaments*, the 3 inner ones bearing a kind of style.

F. *Caps.* 6-celled; many-seeded; beneath.

DIGYNIA.

MERCURIA'LIS. Male and fem. flowers on different plants: *bloss.* none: *calyx* with 3 divisions.

Male. *Stamens* from 9 to 12: *anthers* globular, double.

Fem. *Caps.* double, 2-celled, 1 seed in each.

peren'nis. M. *Stem* undivided; leaves rough.

Curt.-E. bot. 1872-*Walc.-Kniph.* 1, male plant. *Fl. dan.* 400-*Mill. ill.-Cam. epit.* 999. male; 998, female-*Fuchs.* 444-*J. B.* ii. 979. 1-*Trag.* 191-*Lon.* i. 136. 3-*Pet.* 1. 6-*Dod.* 659. 1-*Lob. obs.* 132. 1. and *ic.* i. 260. 1-*Ger. em.* 333. 1-*Park.* 296. 2-*Pet.* 1. 5-*J. B.* ii. 979. 2-*H. ox.* v. 34. 3, 4-*Matth.* 1299.

Male spikes longer than the leaves. *Female spikes* shorter. Mr. WOODWARD. *Male flowers* in spikes, from the bosom of the upper leaves. *Female flowers* on fruit-stalks, generally solitary. *Anthers*, two upon each filament. *Flowers* yellow green. (Dr. Smith observes that the minute petals, or nectaries are peculiar to the fertile flowers. E.)

Perennial Mercury. Dog's Mercury. Woods, hedge banks. —Male and female plants rarely intermixed, each sort usually growing in large patches, whence it is probable that this plant, which propagates itself so much by roots, rarely produces perfect seeds. Mr. WOODWARD. P. April—May.*

M. Stem branching; leaves smooth; flowers in spikes. an'nua.

Male plant.—Curt. 336. 2—Cam. epit. 996—Fuchs. 475—J. B. ii. 977. 2—E. bot. 559—Trag. 190—Ger. 262. 1—Dod. 658. 1—Lob. obs. 131. 1. and ic. i. 259. 1—Ger. em. 332. 1—Park. 295—Pet. 1. 8—H. ox. v. 34, row 1. 1—Blackw. 164. 4, &c.—Lon. i. 136. 2—Gars. 382—Matth. 1297.

Fem. plant.—Curt. 336. 1—Fuchs. 473—J. R. ii. 977. 3—Trag. 190—Blackw. 162. 2 and 3. 1—Cam. epit. 997—Dod. 658. 2—Lob. obs. 131. 2, and ic. i. 259. 2—Ger. em. 332. 2—Pet. 1. 7—H. ox. v. 34—row. 1. 2—Ger. 262. 2—Gars. 382—Matth. 1298.

Barren spikes much shorter than the fertile ones. Mr. ROBS. Some male plants bear a few female flowers. *Calyx* smooth in the male, hairy in the female flowers. *Stamens* sometimes sixteen or more.

Annual Mercury. French Mercury. Waste places and dunghills about towns and villages. [Near Norwich, and at Lowestoft, Suffolk. Mr. WOODWARD.—Near Sunderland. Mr. ROBSON.]—(Very frequent about London. E.) A. Aug.—Sept.†

HEXAGYNIA.

BU'TOMUS. *Involucrum* simple of 3 leaves: *petals* 6; *caps.* 6; many-seeded; *seeds* fixed to the sides of the capsules.

* It is noxious to sheep, and deleterious to man. Ray relates the case of a man, his wife, and three children, who experienced highly deleterious effects from eating it fried with bacon.—Sheep and goats eat it; cows and horses refuse it.—In drying it turns blue. LINN.—and steeped in water it affords a fine deep blue colour, but which unhappily is destructible both by acids and alkalies, and recoverable by no means that I have been able to discover. ST.

† The whole plant is mucilaginous, and was formerly much employed as an emollient, but is now disregarded.

The small Old Gentlewoman Moth, and *Phalæna Meticulosa* feed upon it. LINN.—The seeds taste like those of hemp. ST.

umbella'tus. B.

Curt.—*E. bot.* 651—*Kniph.* 7—*Fl. dan.* 604—*Walc.*—*Ger.* 27. 2
Matth. 1037—*Dod.* 601. 1—*Lob. obs.* 44. 2—*Ger. em.* 29.
 **2—*Park.* 1197. 1—*H. ox.* xii. 5. row 3. f. 3—*J. B.* ii. 524.

(A singularly elegant plant. E.)—*Leaves* 3-cornered, very long. *Involucrum* of three brown spear-shaped leaves. *Fruit-stalks* forming an umbel; long, thread-shaped, unequal, separated by brown membranaceous leaves. *Stamens* placed in a regular circle upon the receptacle, not as in the generic character. *Stem* cylindrical, naked. *Blossoms* purple and white, terminating, sometimes quite white.

Flowering Rush. Water Gladiole. Slow streams and muddy ditches. Skern, near Darlington. Mr. ROBSON.—Side of the river Avon, at Evesham, Worcestershire. Mr. BALLARD.—Bungay, Suffolk. Mr. WOODWARD.—(In ditches between Ince and the sea, N. of Liverpool. Mr. SHEPHERD.—Mere, near Scarborough. Mr. TRAVIS. E.)—About Stafford and Tamworth.
 P June.*

HYDROCHARIS. Male and female flowers on different plants: *cal.* 3-cleft: *bloss* 3 petals.

Male; *sheath* 2-leaved: *filaments*, the 3 inner ones style-bearing.

Fem. *caps.* 6-celled; many-seeded; beneath.

Morsus-
 Ra'nae.

H.

Curt. 167—*E. bot.* 808—*Fl. dan.* 878—*Dod.* 583. 1—*Ger. em.* 818. f. 2—*Park.* 1252. 4—*Dod.* 583. 2—*Lob. ic.* i. 596. 1—*J. B.* iii. 773. 1.

It bears *buds* or rather bubbles. *Bud* pendent, on a very long thread-like leaf-stalk, consisting of two convoluted scales resembling leaf-scales, within which are contained the leaves, becoming gradually larger, tiled and convoluted. LINN. *Root* of many long thick white fibres. *Leaves* round-kidney-shaped, very entire, smooth, fleshy, and, on removing the outer skin when the leaves are dried, a most beautiful close net-work of veins is seen. Mr. WOODWARD. *Leaves* kidney-shaped, thick, smooth, reddish underneath. *Blossom* white.

Common Frog-bit. Slow streams and wet ditches. P. June.

* Neither cows, horses, sheep, swine, or goats will eat it. LINN.—It is an ornament to the banks of our rivers and marshy ditches. Mr. WOODWARD.

Var. 2. Blossoms double, sweet-scented. LINN.

Ditches on the side of Audrey Causey near a wooden bridge in the Isle of Ely. *R. Syn.* (but not now to be found there. RELHAN. E.)

CLASS X.

DECANDRIA.

MONOGYNIA.

(1) *Flowers complete ; regular ; of many Petals.*

MONOTROPA. *Calyx* like a blossom ; bulging at the base: *Caps.* 5-celled ; many-seeded

PYROLA. *Anthers* 2-horned, upwards: *Caps.* 5-celled ; many-seeded.

[*Geranium. Lythrum salicaria.*]

(2) *Flowers of 1 petal ; regular.*

ANDROMEDA. *Bloss.* bell-shaped, but roundish: *Caps.* 5-celled.

ARBUTUS. *Bloss.* egg-shaped ; transparent at the base: *Berry* 5-celled.

[*Vaccinium Myrtillus* and *Oxycoccus. Chlora perfoliata.*]

(3) *Flowers incomplete.*

[*Mercurialis.*]

DIGYNIA.

SCLERANTHUS. *Bloss.* none: *Calyx* 5-cleft ; superior: *Seeds* 2.

CHRYSOSPLENIUM. *Bloss.* none: *Calyx* superior: *Caps.* 2-celled ; 2-beaked

SAXIFRAGA. *Bloss.* 5 petals: *Calyx* with 5 divisions: *Caps.* 1-celled ; 2-beaked.

DECANDRIA.

SAPONARIA. *Bloss.* 5 petals: *Calyx* tubular; naked at the base: *Caps.* 1-celled; oblong

DIANTHUS. *Bloss.* 5 petals: *Calyx* tubular; with *Scales* at the base: *Caps.* 1-celled; oblong.

[*Quercus.* *Carpinus.* *Agrimonia* *Eupatoria.*]

TRIGYNIA.

ARENARIA. *Caps.* 1-celled: *Petals* entire; expanding.

STELLARIA. *Caps.* 1-celled: *Petals* deeply divided; expanding.

CUCUBALUS. *Caps.* 3-celled: *Petals* cloven: *Mouth* naked.

SILENE. *Caps.* 1 to 3 celled: *Petals* (mostly) cloven: *Mouth* crowned.

CHERLERIA. *Caps.* 3-celled: *Nectaries* like petals; smaller than the cup.

[*Polygonum* *Bistorta.* *Quercus.* *Sambucus* *Ebulus.* *Alsine.*]

PENTAGYNIA.

COTYLEDON. *Caps.* 5, adjoining the nectaries: *Bloss.* 1 petal.

SEDUM. *Caps.* 5, adjoining the nectaries; *Bloss.* 5 petals.

OXALIS. *Caps.* 5-celled; angular: *Bloss.* petals connected at the base.

LYCHNIS. *Caps.* 1, 3, or 5-celled; oblong: *Calyx* oblong; membranaceous.

AGROSTEMMA. *Caps.* 1 celled; oblong: *Calyx* tubular; membranaceous.

CERASTIUM. *Caps.* 1-celled: *Petals* cloven: *Calyx* 5-leaved.

SPERGULA. *Caps.* 1-celled: *Petals* entire: *Calyx* 5-leaved.

[*Adoxa moschatellina.* *Geranium.* *Cucubalus* *Behen.* *Arenaria media.* *Quercus.*]

MONOGYNIA.

MONO'TROPA. *Calyx* none: *petals* 10, the 5 outer ones hollowed at the base to contain honey: *caps.* 5-valved. (*These are the numbers of the terminating flower.*)

M. Lateral flowers with 8, the terminating flowers with 10 Hypo'pithys. stamens.

E. bot. 69—*Fl. dan.* 232—*Kniph.* 10—*Plot. oxf.* 9. 6, at p. 146
—*H. ox.* xii. 16. 13. 20. a. b.—*Pluk.* 209. 5.

Spike when in flower nodding, when in fruit upright. Mr. WOODWARD. The whole plant smells sweet, and is of a pale yellow colour, which peculiarity is generally confined to parasitical plants, and such as grow in very shady situations.

Primrose-scented Bird's-nest. *Yellow Bird's-nest.* Woods, growing on the roots of other plants. In Oxfordshire, Bedfordshire, Bucks, Berks, and the Beech Woods of Sussex. [Woods near Uley, Gloucestershire. Mr. BAKER. Shottisham, Norfolk. Mr. CROWE. In a Pine Grove, Stoke, Norfolk. Mr. WOODWARD. Lord Stamford's Woods, at Enville, Staffordshire.] P. July.

ANDRO'MEDA. *Calyx* with 5 divisions: *bloss.* more or less egg-shaped; mouth 5-cleft: *caps.* 5-celled: *seeds* few.

A. Umbel of few flowers, terminating; blossom egg-shaped, nodding; leaves alternate, strap-spear-shaped, edges rolled back. polifo'lia.

Dicks. h. s.—*Fl. Ross.* i. 71—*E. bot.* 713—*Fl. lapp.* 1. 2—*Pluk.* 175. 1—*Park.* 76. 7—*Walc.*—*Fl. dan.* 54—*J. B. i. a.* 227. 1—*Buxb.* v. 55. 1—*Ray ed.* i. 1. 1.

(This plant varies occasionally with quadrifid octandrous flowers, in which state it may easily mislead a young Botanist, and be taken for *Erica Daboecia*. Mr. E. FORSTER, jun. in *Bot. Guide.* E.) Blossoms tinged with red.

Marsh Cistus. *Wild Rosemary.* *Poley Mountain.* Turf bogs. Yorkshire, Cheshire, Lancashire, Westmoreland, Cumberland, and Scotland. [Bogs about Halifax, Yorkshire. Mr. CROWE. Causeway Moss and Rusland Moss, Furness Fells.

Mr. JACKSON. Thorn Moor, Yorkshire. Mr. ROBSON. Chartley Moss. Hon. Mr. BAGOT.] S. June.

A. Daboecia, See *Erica Daboecia*.

AR'BUTUS. *Cal.* with 5 divisions: *bloss.* egg-shaped, pellucid at the base: mouth 5-cleft: *berry* 5-celled, many seeded; superior.

U'nedo.

A. Stem tree-like; leaves smooth, bluntly serrated; panicle terminating; berries with many seeds.

Hunt. Evel. 373. ii. p. 81. *ed.* 2—*Mill.* 48. 1 and 2—*Clus.* i. 47. 2—*Dod.* 804. 2—*Lob. obs.* 571—*Ger. em.* 1496—*Park.* 1490. 1—*J. B.* i. a. 83—*Matth.* 270—*Ger.* 1310. 2—*Lonic.* i. 56. 1.

Berries rough with tubercles formed by the seeds. *LINN.* *Stem*, serratures of the *leaves* and *flower-scales* coloured. *Calyx* segments lapping over each other, coloured at the points. *Blossom* greenish white, a little hairy within. *Anthers* reddish scarlet, double, opening at the base, with two yellow horns. *Berries* red.

Common Strawberry Tree. Arbutus. In the West of Ireland; in the county of Kerry; near the Lake of Killarney. *RAY.* On barren limestone rocks. *Mr. CROWE.* S. Sept.*

alp'na.

A. Stems trailing; leaves wrinkled, somewhat serrated, and fringed with hairs.

E. bot. 2030—*Fl. dan.* 73—*Lightf.* 11. a. b. at p. 216—*Clus.* i. 61—*Ger. em.* 1417. 4—*Park.* 1456. 3—*Ger.* 1230. 4—*J. B.* i. a. 519.

(Woody trailing stems clothed with deciduous bark. *Leaves* deciduous, alternate, obovate, serrated, rugged with reticulated veins, smooth, except a fringe at each side of their taper base. *E. bot. E.*) *Berries* black, globular, sitting upon a very small red cup.

Mountain Strawberry Tree. Black-berried alpine Arbutus. Dry mountains, in Scotland and the Western Isles S. May.†

* It is a beautiful ornament to our shrubberies, not only on account of its foliage and flowers, but of its fruit, which is pleasing to the eye, though not grateful to the taste. The country people, however, in Ireland, eat it, but always drink water after. (The right of this plant as an aboriginal has been contested by Mr. Smith in his History of the County of Kerry, in which he considers it as having been introduced by the Monks of St. Finnian, who founded the Abbey in the sixth century. *E.*)

† The berries have something of the flavour of black currants, but they are not so good. Goats refuse it.

A. Stems trailing; leaves oblong-egg-shaped, very entire, *Uva ur'si*. veined like net-work underneath

E. bot. 714—*Kniph.* 9—*Fl. dan.* 33—*Blackw.* 592. 1. 2 and 3—*Fl. lapp.* 6. 3—*Woodv.* 70—*Lightf.* 11. c. d. at p. 216—*J. B. i. a.* 523—*Zanon.* 178—*Ger.* 1230. 5—*Clus.* i. 63. 2—*Lob. obs.* 547. 1—*Ger. em.* 1416. 5—*Park.* 1457. 6.

Blossom, mouth very much contracted, tinged with red. Mr. WOODWARD. *Flowers* flesh-coloured. *Berries* red.

Bear Whortle-berries. *Red-berried trailing Arbutus.* Dry heaths and woods. East Common Wood, near Hexham, Northumberland. Isle of Mull, next to Y-Columb-Kill, growing plentifully for some miles together. Mr. LLWYD. —Common about Blair. Mr. WATT.—(Summit of Skiddaw. Mr. WOODWARD. Martindale Dale-Head, Ullswater. HUTCHINSON. On Kinder Scout, near Hayfield, Derbyshire. Mr. L. HOWARD, in *Bot. Guide*. Cronkley Fell; Forcegarth Scar; and near Caldron Snout, Durham. Rev. J. HARRIMAN, *ditto*. E.)—West side of the county of Durham. S. May—June.*

PY'ROLA, *Calyx* with 5 divisions: *petals* 5: *caps.* 5-celled, opening at the angles: *seeds* numerous, coated.

P. Stamens ascending; pistils leaning downwards. rotundifolia.

E. bot. 213—*Fl. dan.* 110—*Blackw.* 594—*Riv. pent.* 137—*Matth.* 982—*Fuchs.* 467—*Trag.* 707—*J. B.* iii. 535—*Dod.* 138—*Ger. em.* 408. 1—*Ger.* 330. 1—*Clus.* ii. 116. 3—*Lob. obs.* 157. 2—*H. ox.* xii. 10. row 2. 1—*Park.* 508—*Lonic.* 186.

(*Style* twice the length of the stamens. TRAVIS. E.) *Blossoms* white.

* The berries are insipid, pulpy, and mealy. The plant is much used in Sweden to dye an ash-colour, and to tan leather. Half a dram of the powdered leaves given every, or every other day, has been found useful in calculous cases. It was first used for this purpose at Montpellier, and afterwards by Dr. de Haen, at Vienna, who relates several cases, in which it proved of the greatest service. Its success in England has been uncertain. Sometimes the patients found no relief, but thought their complaints rather aggravated than alleviated; whilst in other calculous and nephritic cases, the symptoms have been almost entirely removed. Perhaps, upon the whole, we shall find it no better than other vegetable astringents; some of which have long been used by the country people, in such complaints, and with very great advantage: though hitherto unnoticed by regular practitioners—Horses, cows, geat, and sheep refuse it.

Common Winter-green. Woods and groves in the North of England : in the South rare. Near Halifax, Yorkshire. [Hockfall Woods, near Grewelthorpe, Raydale Wood, near Carr-end. Wensley Dale, and Tennant's Wood, near Kilnsay, Yorkshire. CURTIS. Meadows at Gorleston, Suffolk. Mr. WIGG. Woods of Duplin and Panmure, Angus-shire, and about Loch Ranoch, Perthshire. Mr. DONN. Chartley Moss, Staffordshire. Hon. Mr. BAGOT.] (Seamer Moor, near Scarborough. Mr. TRAVIS. E.) P. June—July.*

(mi'nor.

P. Flowers in a bunch, scattered; stamens ascending, pistils straight.

E. bot. 158—*Fl. dan.* 55—*Kniph.* 9—*Riv. pent.* 136. 1.

(Style same length as the stamens. TRAVIS, E.) Much resembles the *P. rotundifolia*. (but the distinction pointed out by Mr. TRAVIS may render the discrimination of these species less difficult. E.) Stem in both three-cornered. It is very probable that this plant was first produced by the Pollen of the *P. secunda*, impregnating the germen of the *P. rotundifolia*. Blossom reddish white. LINN. Two flowering stems frequently arise from the same root. Whole plant smaller and weaker than the *P. rotundifolia*. WOODWARD. Anthers with two holes at the base, but not protruded into tubes as in *P. uniflora*. Blossom pale pink or white. E. Bot.

Lesser Winter-green. Woods. Near Clapham, Yorkshire. Highlands, and Isle of Skye. [Near Tring, Herts. WOODWARD. Stoken Church Woods, Oxfordshire. Hon. Mr. BAGOT.] (Seamer Moor, near Scarborough. Mr. TRAVIS. E.) P. June—July.

(me'dia.

P. Stamens regularly inflexed; style curved downwards; cluster many-flowered, with a spiral stalk.

E. bot. 1945—*Swartzin Stockh. Trans. for 1784.* 263. t. 7.

Nearly agrees with *P. minor* in general habit, but differs in it's very spirally twisted flower-stalk, and in the declination and much greater length of it's style. Stamens regularly incurved round the germen, as in *P. minor*, not directed upwards as in *P. rotundifolia*, neither is the style so recurved as in the latter, nor the flowers so large. E. bot.

Intermediate Winter-green. This new British *Pyrola* was discovered by Mr. WINCH in Scots-wood Dean, three miles

* Flowering stem and blossom appear to be greedily eaten by sheep, so that it is difficult to procure perfect specimens. Mr. TRAVIS. E.)

West of Newcastle; and in East common wood, near Hexham, Northumberland; in woods four miles north of Walsingham, Durham; and at Studley, Yorkshire. P. June. E.)

P. Flowers in a bunch, from one side.

secun'da.

Dicks. h. s.-E. bot. 517-*Fl. dan.* 402-*Chus.* ii. 117. 1-*Ger. em.* 408. 2-*J. B.* iii. 536. 1-*Park.* 509. 3-*H. ox.* xii. 10. row 2. 4.

The *stamens* project beyond the blossom, and the *summit* beyond the *stamens*. *Blossom* white

Serrated Winter-green. Woods. Haslewood, near Sir Walter Vavasor's Park, Yorkshire, with the *P. rotundifolia*. [In a Den near Comry, Perthshire. Mr. DONN. On the banks of the river Isla near a cataract called the Reeky Lyn in Angusshire. Mr. BROWN.] P. Sept.

P. Stalk bearing only 1 flower.

uni'flora.

E. bot. 146-*Riv. pent.* 139. 1-*H. ox.* xii. 10. 2-*Fl. dan.* 8.

Flower odoriferous, white with red streaks. *Anthers* with two tubes at the base. *Summit* with five rays. *E. bot.*

Single-flowered Winter-green. Firwoods near Brodie House, in Moray, Scotland; plentifully. (discovered by JAMES BRODIE, Esq. On the Islands of Harris and Bernera among the Hebrides, gathered there about the year 1783, by Mr. James Hoggan. Mr. GOTOBED. E.) P. July.

DIGYNIA.

CHRYSPLENIUM, *Cal.* coloured, 4 or 5-cleft: *bloss.* none: *caps.* 2-beaked, 1-celled, many-seeded; partly beneath; division of the valves extending but half way down.

C. Leaves alternate.

alternifolium.

Dicks. h. s.-E. bot. 54-*Fl. dan.* 366-*Walc.-Pet.* 6. 10-*H. ox.* xii. 8. 8-*J. B.* iii. 707. 1.

Stamens in the terminating flower ten, in the rest eight. LINN. Eschenback, Leers, Moench and Woodward only found eight *stamens* in the terminating flower. Larger than the next species, so that where they grow intermixed this may be known at some distance. *Stamens* three-cornered. *Root-leaves* longer

than the leaf-stalks. **WOODWARD.** Middle *stem-leaves* solitary or alternate. *Flowers* bright yellow.

Alternate-leaved Sen-green. Wet shady woods, along with the *C. oppositifolium*, but less frequent. [About Esholt, on the river Air, eight miles above Leeds, plentifully. **Mr. Wood.**—Boggy grove on Porland Heath, near Norwich. **Mr. Woodward.**—Purlieu Lane, leading from the Wytych to Mathon, Worcestershire. **Mr. Ballard.**—River side and woods at Roslin. **Mr. Brown.**—Moorlands at Belmont, Staffordshire. **Mr. Pitt.**—In a wood at Colton Beck Bridge in Furness Fells. **Mr. Jackson.**—Baydales near Darlington. **Mr. Robson.**]

P. March—May.

oppositifolium. C. Leaves opposite.

Curt. 138—*E. bot.* 490—*Fl. dan.* 365—*Dod.* 316. 2—*Lob. obs.* 336. 1—*Ger. em.* 841. 2—*Park.* 425. 2—*H. ox.* xii. 8. 7. *Pet.* 6. 9.

Stamens in the terminating flower sometimes ten. **CURTIS.** *Stem* upright, with two or three pair of leaves. *Suckers* from the base of the stem, covered with leaves, creeping. *Stem-leaves* two or three pair, circular, with the base lopped on each side, indistinctly and irregularly notched. **WOODWARD.** *Stem* four-cornered. *Root-leaves* longer than the leaf-stalks. *Stamens* sometimes only six or seven. *Flowers* bright yellow. **Linnaeus** remarks, that this and the preceding species are very closely allied; but they may at once be distinguished by the very different lengths of their respective root-leaves.

Golden Saxifrage. *Opposite-leaved Sen-green.* Moist shady places, sides of boggy rivulets, common. [Copse on Polingland Heath, near Norwich. **Mr. Pitchford.** Moist heaths about Manchester. **Mr. Caley.**] (About Gateacre, near Liverpool. **Dr. Bostock** and **Mr. Shepherd.** E.) P. April—May.

SAXIFRAGA. *Calyx* 5-toothed: *bloss.* 5 petals: *caps.* beneath; 2-beaked, 2-celled, many-seeded, opening with a hole between the styles.

(1) *Leaves undivided; stem nearly leafless.*

stellaris.

S. Leaves serrated, oblong-inversely egg-shaped; stem naked, branched; petals spear-shaped, 2 dots upon each.

E. bot. 167—*Jacq. col.* i. 13—*Fl. dan.* 23—*Fl. lapp.* 2. 3—*Scop.* 13. n. 492. at p. 290—*Pluk.* 58. 2; *Ib.* 222. 4—*H. ox.* xii. 9. 13—*J. B.* iii. 708. 1.

Leaves close to the root, numerous, oblong-spear-shaped, narrowing downwards. *Stem* a finger's length, bare. *Flowers* three to five on short fruit-stalks. *Calyx* bent back. *Petals* white, with two oblong tawny spots near the base. LINN. *Leaves* in one or more star-like tufts from each root, wedge-shaped, entire at the base, rather indented at the top, slightly hairy. *Stem*, one from each tuft. *Branches*, each having at its base a leaf, spear-shaped, entire, or cloven into three, and bearing one or two flowers. Mr. WOODWARD. (Mr. Dawson Turner remarks the striking difference in this plant occasioned by place of growth. Specimens gathered in a valley near Keswick were nearly a foot high, with leaves about an inch long, and paniced stems of many flowers, while those on the very summit of Snowdon did not rise to an inch in height, and were in all parts proportionally small, except the flower, which was single, and considerably larger than those of the valley. *Bot. Guide.* E.)

Hairy Kidney-wort, or *Saxifrage*. Moist rocks, and by the hills of Snowdon, Carnedd-Llewellyn, and Cader Idris, &c. In the North of England, and in Scotland. [About Buckbarrow Well, Long-sledale, Yorkshire. CURTIS.—Mountains in Lancashire, Westmoreland and Cumberland. Mr. WOODWARD.—Between Patterdale and Winander Mere. ST.—On Conistone Fells, along with the *Saxifraga aizoides* and *hypnoides*. Mr. JACKSON. On the very summit of Snowdon. Mr. AIKIN.]
P. June—July.

S. *Leaves* egg-shaped, scalloped, nearly sitting: stem leaf-nivalis. less; flowers in heads.

Dicks. h. s.—*E. bot.* 440—*Fl. dan.* 28—*Lightf.* 12. at p. 221—*Ray* 16. 1, at p. 358—*Pluk.* 222. 5—*Fl. lapp.* 2. 5 and 6.

Leaves blunt, lying on the ground. *Stem* somewhat hairy. *Petals* blunt, white. Scarcely is any plant subject to such remarkable variations, in appearance as well as size. Sometimes it is exceedingly small, with heart-shaped leaves, flowers collected into a single head, and a strap-shaped leaf at the base. Sometimes it produces only a single flower on a stalk, and sometimes two of these rise from one root. At other times it bears a number of flowers at the top of the stalk, on fruit-stalks, forming an umbel, and sometimes it appears twice as large, with a spike composed of smaller ones as figured in Ray. But in all these states it is easily distinguishable by its leaves, reddish under-

neath, and purplish pistils. I have seen the same plant flower thrice in one summer. Mr. GRIFFITH.

Mountain Saxifrage. Clustered Alpine Saxifrage. Summits of the higher mountains of Wales and Scotland. Glyder Vawr, near Snowdon. PENNANT'S Wales. [On Ben Lomond and on Malghyrdy. Mr. DON. On Ben Teskerney, Craig Cail-leach and Ben Lawers. Mr. BROWN.] P. end of April to Oct.

- umbro'sa. S. Leaves egg-shaped, scolloped and gristly at the edge, rather dented at the end: stem leafless; flowers in a panicle.

E. bot. 663-Mill. 141. 2-Park. 738, fig. 2d.-par. 233. 5.

Leaves stretching down the leaf-stalk. *Blossom* whitish, with elegant crimson dots, very beautiful when moderately magnified.

(In *E. bot. pl.* 2322 we find a figure greatly resembling our plant, and also found on the mountains of Ireland, said to be undoubtedly the *S. hirsuta* of Linnæus, and intermediate between *S. Geum* and *umbrosa*, but whether really and specifically distinct remains for future observation. E.)

London Pride. None-so-pretty. Geum folio subrotundo majori, pistillo floris rubro. TOURN. R. Syn. Mountains of Sli-go, and on Mangerton in Kerry, Ireland. [In a sloping field a little below Moseley Common, and also on Chap-moss, Lancashire, Mr. W. EVANS.] (In Thorp Arch woods near Wetherby. Sir T. FRANKLAND. Betwixt Arncliffe and Horton in Craven, Yorkshire. Mr. BINGLEY. E.) P. June.

- (Ge'um. S. Leaves of a rounded kidney-shape, sharply toothed; stem naked, paniced; capsule superior.

E. bot. 1561.

Leaves hairy, not elongated at the base into a flat foot-stalk, but standing each on a longish narrow, hairy foot-stalk. *Flower-stalk* clothed with red, glandular hairs. *Petals* cream coloured, (not sprinkled with yellow and red spots) merely marked at the base with a purple line and yellow stain. *Germen* superior. *Calyx* reflexed.

Kidney-leaved Saxifrage. The real *S. Geum* of LINN. Discovered by Mr. MACKAY, on a mountain near Dingle, in the county of Kerry, Ireland. *E. bot.* P. June. E.)

(2) *Leaves undivided; stem leafy.*

S. Stem-leaves opposite, tiled; the uppermost fringed.

Dicks. h. s.—*E. bot.* 9—*Curt.*—*Fl. dan.* 34—*Fl. lapp.* 2. 1—*Allioni* 21. 3—*Pet.* 61. 9—*J. B.* iii. 694. 1—*H. ox.* xii. 10. 36.

Stems thread-shaped, hanging down, or creeping. *Leaves* disposed in four rows, sitting, fringed. *Flower* terminating, solitary, sitting. LINN. *Leaves* oval, somewhat running down the stem, in opposite pairs, alternately from each side of the stem, giving the appearance of being quadrangularly tiled, all fringed, sea-green, frequently tinged with purple. *Cup* purplish, fringed. *Petals* very blunt, bright purple. Mr. WOODWARD.

Heath-like Saxifrage. Purple Saxifrage. Rocks. On the North side of Ingleborough; higher rocks of Snowdon, about Llanberys; Highland mountains, and Isles of Rum and Skye. [Ingleborough and Pennigent. CURT.—This beautiful plant insinuates its roots into every crevice, and, with its numerous trailing branches, clothes, with a rich tapestry, the perpendicular rocks on the west side of the summit of Ingleborough. Mr. WOODWARD.—On Ben Lomond. Dr. HOPE; and Ben Vurloch. Mr. BROWN.] P. April—June.

S. Stem-leaves spear-shaped, alternate, naked, without *Hirculus*. prickles; stem upright.

Curt.—*E. bot.* 1009—*Fl. dan.* 200—*Breyn. cent.* 48—*H. ox.* xii. 8, row 2. 6. *a-Breyn. ib. p.* 106—*H. ox.* 6—*Gmel.* iv. 65. 3—*Hall.* 11. 3—*Clus. cur.* 6—*Ger. em.* 1284. 8—*Park.* 656, figure the lowest—*H. ox.* xii. 8. 5—*Breyn.* 106, t. 48.

Stem purple, simple, generally with two or three flowers. *Fruit-stalks* downy. *Cup* bent back. *Leaves* not fringed. *Petals* ribbed, yellow, with tawny dots, towards their base an oblong hollow or chink of two valves, with pointed ends, containing honey. LINN. The ribs on the cup and on the petals clearly distinguish it from the *S. aizoides*. WOODWARD. (as also the germen superior. *E. bot. E.*)

Marsh Saxifrage. Turf bogs. Knutsford Moor, Cheshire. RAY and LIGHTFOOT, who first ascertained it to be the *S. Hirculus*. P. July—Aug.

S. Stem-leaves strap-awl-shaped, sometimes fringed; root-*aizoides*. leaves crowded together; stems trailing.

E. bot. 39—*Gesn. op. Schmied. app. f.* 4—*Scop.* 14. at p. 493—*Fl. dan.* 72—*Clus.* ii. 60, 3—*Ger. cm.* 516. 2—*Park.* 737. 7—*J. B.* iii. 693. 2—*Pet.* 61. 10—*H. ox.* xii. 6—row 2.

Stems numerous, ascending. *Stem-leaves* numerous, strap-shaped, scattered, half embracing the stem, sometimes with a few hairs at the edge, but oftener without. *Fruit-stalks* many, from the bosom of the leaves, of various lengths, the lower ones longest, generally with one flower. *Flower-leaves* two on each fruit-stalk. *Cups* nearly as long as the blossom. *Petals* blunt, yellow, spotted. Mr. WOODWARD. Mr. Afzelius informed me, that the *S. aizoides* and the *S. autumnalis* of Linnæus were both the same plant; that when the leaves are fringed it had been called by the latter, and when without fringe by the former name. From the same authority also it may be observed that the synonyms from Bauhine and Morison given to the *S. autumnalis*, belong to the *S. hirculus*, as does also that of Breynius.

Yellow Mountain Saxifrage. S. autumnalis. Huds. Lightf. Bot. arr. ed. ii. Ingleborough Hill, and in Westmoreland. Beeston Castle, Cheshire; [and in Long-Sledale and Whitsell Gill, near Askrig, Yorkshire. CURTIS.—In Furness Fells, near the top of a high mountain called the Old Man; in moist places. Mr. ATKINSON.] P. July—Aug.

(3) *Leaves lobed; stem upright.*

granula'ta. S. Stem-leaves kidney-shaped, gashed; stem branched; root beaded.

Dicks. h. s.—E. bot. 500—*Kniph.* 1—*Curt.—Fl. dan.* 514—*Mill. ill.—Woodv.* 232—*Ludw.* 120—*Walc.—Matth.* 978—*Fuchs.* 747—*J. B. iii. Dod.* 316. 1—*Lob. obs.* 335. 2—*Ger. em.* 841. 1—*Park.* 424. 1 and 2—*H. ox.* xii. 9. 23—*Ger.* 693. 1—*Trag.* 525—*Lonic.* i. 220. 1—*Blackw.* 56.

Root consisting of several tubercles or knobs crowded together. *Germen* beneath. LINN. *Branches* without leaves. *Cup* a little hairy. *Blossoms* white. (*Petals* twice the length of the calyx, veined. *Stem* solitary, upright, four to eight inches high, clothed with hairs. *Leaves* palmate notched, sometimes extending in a long flattened leaf-stalk. *Stigmas* not always downy, as described in *E. bot.* neither is the plant generally tinged with a reddish hue, as there represented. *E.*)

White Saxifrage. Dry meadows and pastures. Near Wandsworth. Bevery, near Worcester. ST. Plentiful in the field below Malham Cove, Yorkshire. Wood behind Agecroft Hall, and many other places about Manchester. Mr. CALEY. Found with a double flower by professor Martyn, at Mitcham, Surrey.—In the Garlick meadows, near Penn's Mill, Erdington, Warwickshire.—(On the hedge bank by the side of the Sutton road, opposite Aston Park wall, one mile from Birmingham. E.)

P. April—June.

- S. Stem-leaves hand-shaped, on leaf-stalks; stem un-cer'nua, branched, 1-flowered, bulb-bearing.

E. bot. 664—*Fl. lapp.* 2, 4—*Fl. dan.* 22.

Flowers rather nodding. *Stem-leaves* smooth, more hand-shaped, and the germen more elevated above the receptacle than in the *S. bulbifera*. In that plant too the stem is branched, and bears more than one flower. LINN. Very seldom flowering, but always producing its axillary purple bulbs. MR. BROWN. *Fl. dan.* 390, and *Gun. norv.* 8, 2, seem also to represent this species, but the stem in these figures bears two flowers. *Root* not beaded. *Flowers* white.

On mountains in the north. Amongst the rocks on the summit of Ben Lawers, Scotland; first found by Mr. DICKSON.

P. Aug.

- (S. Stem-leaves palmate; the upper floral-leaf egg-shaped; rivula'ris, stem undivided, one or two-flowered.

E. bot. 2275—*Fl. dan.* 118.

Stems decumbent at the base, two or three inches high, scarcely branched but at the bottom, bearing from two to five flowers, on stalks that are slightly downy and viscid. *Lower leaves* on long stalks, smooth, fleshy, palmate, in three or five rounded lobes, of which the middle one is the largest; one or two ovate or spatulate, undivided leaves accompany the flowers. *Petals* white single ribbed, rounded, sharp pointed in the representation of *Fl. dan.* not much exceeding the calyx, which is half inferior, surrounding the middle of the capsule. *Root* fibrous, somewhat creeping. *E. bot.*

Alpine Brook Saxifrage. This very rare plant was discovered in Alpine rills, in the Highlands of Scotland, by Mr. G. DON.—Also on Ben Nevis, by Mr. ROBERT TOWNSON.

P. June—July. E.)

- S. Stem-leaves wedge-shaped, alternate, 3-cleft; stem tridactyl'ites, branched; leaves in very dry situations, sometimes undivided.

Dicks. h. s.—*E. bot.* 501—*Curt.* 129—*Walc.*—*Sheldr.* 24—*H. ox.* xii. 9. 31—*Ger.* 499. 3—*Pet.* 61. 8—*Scop.* 16. 499—*Blackw.* 212.

Turns red after flowering. *Hairs* terminating in globules. *Stems* forked, in some situations trailing. *Root-leaves* tapering down into flat leaf-stalks. *Stem-leaves* sessile, the upper, and

DECANDRIA. DIGYNIA. *Saxifraga*.

sometimes all above the first branches, spear-shaped and opposite, *Fruit-stalks* with single flowers, axillary. *Cup*, mouth with five egg-shaped clefts. *Petals* white, egg-shaped, but little longer than the segments of the cup.

Var. 2. Stem branched; upper stem leaves opposite, spear-shaped.

On the tiles of the shed which covers the mill wheel at Moxhall, Staffordshire.

Var. 3. Stem unbranched; all the leaves entire.

This sometimes happens to small specimens in very dry situations.

Rue Whitlow-grass. Rue-leaved Saxifrage. Walls, roofs, and amongst rubbish. [Very common in Craven, Yorkshire, but rare in Lancashire. Mr. CALEY. —In the walks at Hatton, near Shifnal, Shropshire. On the Winnets near Castleton, Derbyshire.] A. April—May.

moscha'ta. S. Root-leaves incorporated, strap-shaped, 3-cleft or entire; stem-leaves 3 to 5, entire; flowers on long fruit-stalks; whole plant hairy and glutinous.

E. bot. 2314—*J. B.* iii. 762. 2—*Cesn. fasc.* 6. 31—*Hall. opusc. it. helv.* 1. 1.

Growing in tufts. *Leaves* a fine green, mostly entire. *Stem-leaves* about five, strap-shaped, rarely cloven. *Flowers* from 3 to 6. *Petals* pale yellow, not scored. Whole plant odoriferous. JACQ. (*Stems* about two inches high. E.)

Matted Saxifrage. Musky Alpine Saxifrage. S. cæspitosa HUDS. and Bot. arr. ed. ii; not *S. cæspitosa*. LINN. *S. pyrenaica* HALLER. Mountains above Ambleside, Westmoreland. (Moist rocks near Keswick. Mr. HUTTON.—Kirkston, near Ambleside. Rev. Mr. RICHARDSON, in *Bot. Guide*.—Highlands of Scotland. *E. bot.* E.) P. May—Aug.

cæspito'sa. S. Root-leaves aggregate, strap-shaped, entire, or 3-cleft; stem upright, nearly destitute of leaves, bearing one or two flowers.

E. bot. 794—*Fl. dan.* 71—*Gun. Norv. t.* 7. f. 1, 3. 4.

Plant smooth; the extremities of some of the branches viscid. *Petals* yellowish, streaked. LINN. *Stem* bearing only one flower. *Root-leaves* 3 or 5-cleft. Mr. GRIFFITH.

Found by Mr. GRIFFITH on Snowdon, and on the rocks in Cwn Idwell very near Tŵll dŵ.

- S. Stem-leaves strap-shaped, entire, or 3-cleft; suckers hypnoi'des, trailing, stem with few leaves.

E. bot. 454—*Fl. dan.* 348—*H. ox.* xii. 9. 26.

Stem, fruit-stalks, and calyx thickly set with short hairs, terminated by red globules; the rest of the plant thinly set with fine white hairs. *Upper-leaves*, both of the stem and trailing suckers, generally entire; the lower frequently 3-cleft. *Petals* greenish white, with three green lines; slightly cloven at the end. (Mr. Dawson Turner remarks that the petals vary in shape from egg-oblong to nearly circular. E.)

Ladies' Cushion. Mossy Saxifrage Rocks and high mountains. Snowdon, and other mountains in Wales, Westmoreland, Yorkshire, Derbyshire, Malham Cove, Cheddar Rocks. [About Settle. CURT.—Dovedale, Derbyshire, and Northern counties. Mr. WOODWARD.—Middleton Dale, Derbyshire. Mr. WHATELY.] P. May—July.

Cultivated in gardens as an edging for borders.

(4) *Stems trailing.*

- S. Leaves hairy, palmate; the lower ones in 5 divisions; palma'ta. upper in three; shoots ascending; stem erect, leafy, with a dense panicle of few flowers; petals roundish.
E. bot.

E. bot. 455—*Fl. dan.* 71—*H. ox.* xii. 9. 28—*Pluk.* 222. 3—*Gouan. ill.* 18. 3. is the plant, but very much larger than the other figures or our specimens.

Root-leaves sitting, mostly 3-cleft, wedge-shaped; the rest 5-cleft, all covered with long jointed transparent hairs, which taper to a fine point. *Stem* about two inches high, branched, supporting from five to eight flowers, each subtended by a 3-cleft floral-leaf. *Calyx* 5-cleft, segments oval, covered with short globuliferous hairs. *Petals* expanding, thrice as long as the calyx, oval, blunt, each marked with three pale green lines. *Whole plant* hairy, the hairs jointed like a *Conferva*, and secreting a glutinous liquid. *Blossom* yellow white, with a greenish tinge. *Petals* 3-fibred.

Palmate Saxifrage. We are indebted to the indefatigable researches of J. WYNNE GRIFFITH, Esq. for this beautiful addition to our Flora. He found it on the rocks of Cwn Idwell, above Llyn Idwel, near Twll dŷ, and favoured me with recent specimens. P. April—June.

SCLERANTHUS. *Cal.* 1 leaf: *bloss.* none: *seed* 1, inclosed in the cup.

an'nuus.

S. Calyx, segments thornless; tapering to a point; open when the fruit is ripe.

E. bot. 351—*Fl. dan.* 504—*Trag.* 393—*Lonic.* i. 169. 1—*Dod.* 115. 1—*Ger. em.* 566. 4—*Park.* 447. 7—*Ger.* 452. 2—*Pet.* 9. 6.

Branches either opposite or alternate. *Mr. GOUCH*; always woolly. *Leaves* with membranaceous and downy edges smooth above. *Flowers* in clusters at the end and divisions of the branches sitting. *WOODWARD.* *Stamens* six to nine, generally eight, unequal, two or three of them twice as long as the rest and producing pollen; the rest barren. *Dr. STOKES.* *Flowers* at the base of the leaves greenish.

German Knot-grass. *Annual Knavell.* Sandy ground and corn fields. A. July—Aug.*

peren'nis.

S. Calyx, segments blunt, closed when the fruit is ripe.

E. bot. 352—*Kniph.* 10—*Ray* 5. 1. at p. 160—*J. B.* iii. 378. 1—*H. ox.* v. 29.* row 1. f. 2—*Ger.* 453—*Ger. em.* 567. 5—*Park.* 427. 2—*Pet.* 9. 7—*Fl. dan.* 563—*Vaill.* 1. 5.

Stems sometimes, but not always woolly. *Leaves* sea-green, fringed at the edge. *WOODWARD.* *Calyx* not perfectly closed, but less open than in *S. annuus*. *HALLER.* *Stamens* ten. *Flowers* greenish, edged with white.

Perennial Knavell. Sandy corn fields. Elden, Suffolk. [Snetisham, Norfolk. *Mr. CROWE.* Bury, Suffolk. *Mr. WOODWARD.*] (Fields above Gateshead, Durham. *Mr. THORNHILL,* in *Bot. Guide.* Sandy places by the road side between Crowen and Balda. *BINGLEY.* Old Stone-pits at Creaton, Northamptonshire. *MORTON.* Culford, West Stow, and Ickingham heaths, Suffolk. *Sir T. G. CULLUM.* E.)

P. July—Aug.†

polycar'pos? *S.* *Cal.* segments thorn-like; widely expanded when ripe; stem somewhat woolly.

* The Swedes and Germans receive the vapour arising from a decoction of it into their mouths, to cure the tooth-ach. Goats and sheep eat it; cows refuse it.

† The Polish cochineal *Coccus polonicus* is found upon the roots in the summer months.

Said to have been found at Broomholm, near Longholm, Eskdale. LIGHTFOOT. *fl. scot.* p. 1135.

SAPONARIA. *Calyx* 1 leaf, naked: *petals* 5, with claws: *caps.* oblong, of 1 cell.

S. *Calyx* cylindrical; leaves egg-spear-shaped.

officinalis.

Curt.-E. bot. 1060.—*Fl. dan.* 543—*Woodv.* 251—*Dod.* 179—*Lob. obs.* 170. 2—*Ger. em.* 444—*Park.* 641. 1—*H. or. v.* 22. 52—*Blackw.* 113.

Leaves sitting, opposite, three-fibred. *Flowers* terminating. *Blossom* flesh coloured or white, (sometimes double. E.)

Bruisewort. *Common Soapwort.* Meadows and hedges. On Black Heath. Near Morden College, Kent. [In Norfolk, not unfrequent. Mr. WOODWARD. Hedges near Hanley, Worcestershire. Mr. BALLARD. On the brink of the river below Preston, Lancashire. Mr. SAVILLE. Somerton and Beverstone, Gloucestershire. Mr. BAKER.]—(Between the Half-way House and Gad's-hill, in the way to Rochester. *E. bot.* E.)
P. July—Sept.*

Var. 2. *hybrida.* Leaves concave. A singular variety, found by Gerarde, in a wood called the Spinnie, near Lichbarrow, in Northamptonshire; but Morton informs us it is no longer to be met with there, not being capable of propagating itself by seed. It is possibly, however, still preserved in the gardens of the curious. It seems to be a mule produced between the Saponaria and the Gentiana, the pollen of the latter falling upon the pistils of the former. LINN. (This curious variety has been recently found by Dr. BOSTOCK, on sand-hills a few miles North of Liverpool. E.)

Var. 3. Leaves united at the base. Blossom whitish, of a pale flesh colour at the edge. RAY. Leaves egg-shaped, those beneath the flowers clasping the stem. Calyx sheath-like, ragged at the mouth. Blossom twice as long, with a number of short teeth, accompanied sometimes with green leaves. Specimens from the herbarium of C. B. and Mr. Hudson. HALL.

* The whole plant is bitter. Bruised and agitated with water, it raises a lather like soap, which washes greasy spots out of clothes. A decoction of it, applied externally, cures the itch. The German use it instead of Sarsaparilla in venereal complaints. M. Andry, of Paris, cures violent gonorrhæas, by giving half an ounce of the inspissated juice daily. By the use of the extract, and a decoction of the leaves and roots, M. Jurine cures old venereal complaints, such as ulcers, pains, and emaciations, which have resisted the use of Mercury. *Journal de Médecine*, tom. 66, p. 478.

DECANDRIA. DIGYNIA. *Dianthus*.

Ger. 353—*J. B.* iii. 521. 2—*H. ox.* v. 53—*Park.* 641.

Saponaria concava anglica convoluta folio. *Park.* 641.—
Gentiana concava, *Ger.* em. 435. *St.*

DIAN'THUS. *Cal.* cylindrical, of 1 leaf, with from 2 to 8 scales at the base: *petals* 5, with claws: *caps.* cylindrical, 1-celled.

(1) *Stem herbaceous, many-flowered; flowers incorporated.*

barba'tus.

D. Flowers in bundles; scales of the calyx egg-awl-shaped, as long as the tube; leaves spear-shaped.

Renealm. 47—*Clus.* i. 287. 1—*Dod.* 176. 2—*Ger. em.* 598. 4—
Ger. 479. 4—*Swert.* ii. 18. 8 and 9.

Sweet Williams. [On a limestone wall at King's Weston near Bristol. *Dr. STOKES.* Common in gardens.] (On a marle bank in Studley woods, Yorkshire. *Mr. BRUNTON.* E.)
P. June.

Arme'ria.

D. Flowers in bundles; scales of the calyx spear-shaped, woolly, as long as the tube,

Fl. dan. 230—*J. B.* iii. 335. 2—*Lob. ic.* i. 448. 2—*Ger. em.* 594. 11—*H. ox.* v. 25. 20—*Pet.* 56. 5—*Seguier.* i. 7. 4—
Matth. 579.

Petals taper pointed, with one or two teeth. *LINN.* red.

Deptford Pink. Gravelly meadows and pastures. Charlton Wood, and elsewhere in Kent. Near Croydon. [Norfolk, frequent. *Mr. WOODWARD.* Near Ketley, Shropshire, in gravel, and Clarkton Leap, Worcestershire, in marle. *STOKES.* About Pershore and Eckington, Worcestershire. *NASH.*] A. July.

pro'lifer.

D. Flowers in heads; scales of the calyx egg-shaped, blunt, awnless, taller than the tube.

Fl. dan. 221—*E. bot.* 956—*Kniph.* 7—*Seguier.* i. 7. 1—*J. B.* iii. 335. 1—*Lob. ic.* i. 450. 1—*Ger. em.* 599. 5—*Park.* 1338. 1—*H. ox.* v. 25. 21.

Stem usually simple, upright, slender. *Flowers* nearly concealed by the scales of the calyx, opening one at a time for a considerable time in succession. *Mr. WOODWARD,* (*Capsule*

cylindrical, containing many flat, black seeds. *E. bot.* E.) Blossoms red, sometimes white. They expand about eight in the morning, and close about one in the afternoon.

Childing Sweet Williams. Childing Pinks. Proliferous Pink. Sandy meadows and pastures, (but not frequent. E.) Selsey Island, Sussex. [Near Norwich. Mr. WOODWARD. In a marle pit at Landridge Hill; Hauley Castle, Worcestershire. Mr. BALLARD.] A. July.

(2) *Stem herbaceous, many flowered; flowers solitary.*

D. Scales of the calyx almost rhomboidal, very short: Caryophyll' petals irregularly toothed. (See Linn. tr. ii. 299.) lus.

E. bot. 214—*Dod.* 174. 3—*Ger. em.* 591, 1—*Pet.* 56. 1.

Stem panicled. *Leaves* finely toothed just above the base. *Flowers* several, but not in bundles. *Scales*, the two outermost narrower than the inner ones, which are broader than they are long. *Petals* smooth at the orifice, pale flesh-colour. *E. bot.*

Common Pinks. Single red Pink. D. Caryophyllus β. Huds. The Clove Pink or Clove July Flower of our gardens, is a variety of this. Old walls. Rochester, Deal, Sandown, and other castles, plentifully. RAY. [Leverington near Wisbeach, (and on the walls of Chippenham Park. RELHAN. Tower on the wall at East Ham, Essex. Mr. DILLWYN. Walls of Cardiff Castle. Dr. TURTON, in *Bot. Guide*. Walls of Ludlow Castle. Dr. EVANS. Fountain's Abbey. Mr. BRUNTON, ditto. E.) P. June—July.

D. Scales of the calyx 2; egg-spear-shaped, acute; petals deltoïdes. toothed at the end.

E. bot. 61—*Fl. dan.* 577—*Clus. i.* 285. 1—*Lob. ic.* 444. 1—*Ger. em.* 593. 6—*Pet.* 56. 2—*J. B.* iii. 329. 4.

Root slender, long, with a few fibres. *Barren stems* numerous, reclining, throwing out roots; *flowering stems* six to eight inches high, cylindrical, slender, weak, jointed. *Leaves* very narrow, in opposite pairs, embracing the stem; those of the barren branches narrower, not much pointed. *Flowers* two or three on a stem. *Blossom* reddish, with a ring of deeper coloured dots surrounding the eye. *Seeds* chaffy, brown. It flowers during the summer and till autumn. RAY. *Fruit-stalks* single or in pairs. *Flowers* palish red, sometimes deeper, always with a circle of deeper coloured dots at the base of the limb.

Maiden Pink. Sandy meadows, pastures, and heaths. Near Nottingham; on the road to Lenton in Bedfordshire. Mantham Hill not far from Slough, near Windsor; Hildersham, Cambridgeshire; Bridgnorth, Shropshire; near G. Strickland, Westmoreland, and about Hampton Court Park. RAY. Dupper's Hill, near Croydon. HUDS. Near Whitewood, Gamlingay, Cambridgeshire. RELHAN. King's Park, Edinburgh. LIGHTFOOT. [Cley, Norfolk, and Chedder Rocks, Somersetshire. Mr. CROWE. Near Bury, Suffolk. Mr. WOODWARD. Hills between Bakewell and Chatsworth. Mr. WHATELY. Sand Banks near Wollerton, Nottinghamshire, on the road from Derby to Nottingham. Mr. SAVILLE. Blackford Hill plentifully, and many other places in Scotland. Mr. BROWN.]

B. July—Oct.*

Var. 2. *glaucus*. Scales of the calyx mostly 4.

Dill. elth. 298. 384.

So nearly allied to *D. deltoides*, that they are difficultly distinguished, except in size and colour. *Stem* longer, more upright. *Blossom* greenish underneath, above white, with a toothed scarlet circle. LINN. *Blossom* white, with a purple eye. In other respects differs very little from the *D. deltoides*. LIGHTFOOT.

D. glaucus. LINN. Common in gardens. King's Park, Edinburgh. LIGHTFOOT. [Chedder Rocks, Somersetshire. Mr. SWAYNE.]

P. June—July.

(3) *Stem herbaceous, supporting a single flower.*

cæsius.

D. Stem mostly single-flowered; scales of the calyx roundish and short; petals irregularly toothed; leaves rough at the edges. (E. bot.)

Dill. elth. 298. 385—*E. bot.* 62.

Stem trailing, the flowering branches rising upwards. *Leaves* bluish green, soft to the touch, but finely serrated with pointed semi-transparent glands at the edges. *Calyx* scales either two or four. *Petals* with short stiffish purple hairs at the base of the limb. *Flowers* pale pink.

Mountain Pink. *D. virgineus* β. Linn. *D. glaucus*. Huds. See English Botany. p. 62. Chedder Rocks, Somersetshire.

P. July.

* (In some parts of Hungary this plant dried in the sun, and steeped in wine, is much used to cure the ague. TOWNSON'S Travels. E.)

TRIGYNIA.

CUCUBALUS. *Calyx* inflated: *petals* 5, with claws, not crowned at the mouth: *capsule* 3-celled.

C. *Calyx* bell-shaped; *petals* distinct; seed-vessels colour-bacciferous; branches wide apart.

Dicks. h. s.—*E. bot.* 1577—*Mill.* 112—*Clus.* ii. 183. 2—*Dod.* 403—*Lob. obs.* 136. 3—*Ger. em.* 614. 13—*Park.* 759. 1—*J. B.* ii. 175. 1—*Tourn.* 176.

This singular plant will not properly arrange either with the *Cucubalus* or with the *Silene*. The fringe or crown at the mouth of the blossom refers it to the latter genus, but the fruit, which is a pulpy berry, not a dry capsule, excludes it from both. Whole plant somewhat hairy. *Stem*, joints large; *branches* nearly horizontal. *Leaves* in pairs at the joints. *Flowers* nodding. *Calyx* egg-shaped. *Petals*, when young, not seeming to be fringed at the mouth, but afterwards it becomes visible; and the fringe is serrated at the ends, so that it is properly a *Silene*. *Berry* with three partitions, but not sufficiently projecting to separate it into distinct cells. *Flowers* white. *Berries* black. *Berry-bearing Chickweed.* Hedges in Anglesea.

P. June—July.

C. *Calyx* nearly globular, smooth, with a net-work of Be'hen. veins; leaves egg-spear-shaped, glaucous, smooth.

Fl. dan. 914—*E. bot.* 164—*Kniph.* 12—*J. B.* iii. 356—*Pet.* 57. 2—*Blackw.* 268—*Clus.* i. 293. 2—*Dod.* 172—*Lob. obs.* 184. 1—*Ger. em.* 678. 2—*Park.* 263—*Ger.* 550. 2—*Trag.* 130—*Lonic.* ii. 33—*H. ox.* v. 20. 1.

We have adopted the improved Specific character as given by Dr. Smith in English botany because, as he justly observes, our plants have no appearance of a crown at the mouth of the blossom. *Calyx* white, or purplish with green or purple veins. *Flowers* white. *Pistils* sometimes four when growing on the sea coast.

Spatling Poppy. *White Bottle.* *Bladder Campion.* *Silene inflata.* Fl. Brit. Corn fields and dry meadows and pastures, common.

P. June—Aug.*

* The leaves boiled have something of the flavour of pease, and proved of great use to the inhabitants of the island of Minorca, in the year 1685, when a swarm of locusts had destroyed the harvest. The Gothlanders apply the leaves to erysipelatous eruptions.

Oti'tes.

C. Male and female flowers on different plants; petals strap-shaped, undivided.

E. bot. 85—*Kniph.* 12—*Fl. dan.* 518—*Clus.* i. 295. 1—*Ger. em.* 593. 1—*J. B.* iii. 350. 2—*Pet.* 57. 11—*Ger.* 396. 1—*H. or.* v. 20. 5.

The *barren plants* bear more flowers, and in closer panicles than the *fertile* ones. I have examined many hundred plants, but never met with one with stamens and pistils in the same calyx. **WOODWARD.** Though the male flowers sometimes produce imperfect pistils, and the female imperfect stamens. *Root-leaves* lying on a circle on the ground. *Blossom* pale yellowish or greenish white

Spanish Campion. *Silene Oti'tes.* *Fl. Brit.* Gravelly pastures. Gravel pits on the North side of Newmarket, and between Barton Mills and Thetford, Norfolk. [Near Swaffham and Narborough, Norfolk. **Mr. WOODWARD.**] P. July—Aug.

SILE'NE. *Calyx* distended: *petals* 5, with claws; crowned at the mouth: *caps.* 1 or 3-celled.

(1) *Flowers lateral, solitary.*

an'glicā.

S. Hairy; flowers upright, alternate, on fruit-stalks; lower ones bent back after flowering.

Curt 266—*E. bot.* 1178—*Dill. elth.* 309. 398.

Leaves spear-shaped; flowers axillary; fruit-stalks hairy, clammy, at first upright, then bent back, and at length when the seeds are quite ripe upright again. *Petals* white, either entire or notched at the end. **CURTIS.** Sometimes with pale reddish spots. *E. bot.* 86.

Small Corn Campion, with a very small white flower. **RAY.** *English Catchfly.* Sandy corn fields. Near the Devil's Ditch, Cambridgeshire. In Essex. About Combe Wood, Surrey; and near Newport in the Isle of Wight. [Road side between Dundee and St. Andrew's. Cornfields in several parts of Fifeshire, Angus-shire, and Perthshire. **Mr. BROWN.**] (On Duppa's Hill, Surrey. **Mr. BORRER,** in *Bot. Guide.* At Lakenham and Cossey, near Norwich. **Dr. SMITH.** Frequent in sandy corn fields in Norfolk and Suffolk. **Mr. WOODWARD.** *E.*)

A. June—July

quinque-vul'nera.

S. Petals very entire, roundish; fruit upright, alternate.

E. bot. 86—*Kniph.* 8.

Calyx of the fruit upright, hairy, clammy. *Petals* blunt, scarcely nicked, very entire at the edge, purple, with a white margin. LINN. *Plant* less hairy and less viscid than the preceding. *Limb* of the petals white, with a blood red blotch at the base

Variegated Catchfly. S. anglica. KNIPHOFF. Sandy corn fields about Wrotham, Kent. HUDS. (In a sandy corn field at Crosby, near Liverpool. Mr. SHEPHERD. E.) In our flower gardens very common.

A. June—Aug.

(2) *Flowers lateral or terminating.*

S. *Petals* cloven; calyx ribbed; flowers lateral, pointing nutans. one way, bowed downwards; panicle drooping.

E. bot. 465—*Fl. dan.* 242—*Clus.* i. 291. 1—*Ger. em.* 470. 8—*Park.* 631. 5.

Stem simple, cylindrical, a foot high, with three joints below the panicle, beset with clammy hairs. *Leaves* spear-shaped, with short hairs. *Root-leaves* on short leaf-stalks, forming a close turf. *Petals* white, narrow, cloven more than half way down; segments scalloped at the end, rolled inwards in the day time. *Claws* of the blossom twice as long as the calyx. *Stamens* white, twice as long as the claws of the petals. *Styles* three, white, as long as the stamens. LINN. *Stem* frequently branched from the root. Mr. WOODWARD. *Capsule* with three cells, and its mouth with six clefts.

Nottingham Catchfly. Mountainous meadows. [On the Lodge at Nottingham Castle.—Rocks in Dovedale, Derbyshire. Mr. WOODWARD. Near Gloddeath, Caernarvonshire. PENN. Wales.—Foot of North Queen's Ferry Hill. Mr. BROWN.]

P. June—July.

(*Dover Catchfly.* On Dover Cliffs. Mr. NEWTON. RAY. Rocks above the mine works at Dalea Goch, Flintshire. Mr. GRIFFITH. E.)

The *Lychnis major noctiflora Dubrensis perennis* of Ray Syn. 340, is supposed also by Mr. Woodward and Mr. Lightfoot to be the *S. nutans*, which Ray himself also strongly suspected, and his more ample description of it in Hist. Pl. ii. p. 995, agrees with my specimens of the *S. nutans*. At any rate it cannot be the *Cucubalus viscosus* of Linnæus as Mr. Hudson had supposed, misled by the reference to Ray in Sp. Pl. but that reference has since been directed to be erased. Retz, in obs. iii. tells us, that he had Ray's Dover plant growing in his garden, and that it was not specifically different from the *Cucubalus Italicus*. But it is evident from Ray's description that the

Dover plant is a *Silene*, and not a *Cucubalus*, for he particularly mentions the crown at the mouth of the blossom; and the circumstance of the stamens protruding from the blossom, and pointing downwards, is so remarkable in the *C. Italicus*, that it could not have escaped the observation of our countryman.

Mr. Afzelius informed me, that Ray's Dover plant was a *Silene*, and very much resembling the *S. nutans*, but not the same; but on comparing Ray's plant with the fig. of Clusius, referred to by Linnæus, and with his full description in the fl. Suec. I cannot perceive wherein the difference consists. Since the above was written I have been favoured with a specimen of the Swedish *Silene nutans*, sent by Professor Thunberg, which only differs from our plant in having smaller leaves.

(Dr. Smith imagined he had cleared up this obscure point, and actually introduced the *Dover Catchfly* in his Fl. Brit. as the *Silene paradoxa* of Linn: (which Mr. Dillwyn thinks does not grow near Dover,) but has more recently found reason to relinquish that idea. We are indebted to Mr. L. W. Dillwyn for finally solving this difficulty. That gentleman finds *Silene nutans* growing plentifully on the Cliffs about Dover, and on Sandgate Castle, Kent, and considers it as undoubtedly the same as that which I have gathered on Nottingham Castle walls. E.)

maritima.

S. Stem trailing, branches ascending; calyx veined, smooth; petals cloven, segments very entire.

E. bot. 957—*Fl. dan.* 857—*Lob. adv.* 143. and *ic.* 337—*Tab. ic.* 676. xiii.—*Ger. em.* 469. 2—*Bauh. hist.* iii. 357. 1—*Ger.* 382. 2—*Park.* 639. 3 and 4—*Pet.* 57. 1—*H. or.* v. 20. 2.

Stem trailing; branches ascending. *Leaves* spear-shaped, varying much in breadth, those on the barren and trailing branches the narrowest, edges transparent, serrated with very minute prickles. *Fruit-stalks* either from the bosom of the leaves or terminating; mostly solitary, though in the larger and more upright plants there are sometimes three terminating flowers as in the fig. in the Fl. Danica. *Floral-leaves* two, opposite, spear-shaped, at some distance from the flower. *Calyx* semi-transparent, with a net-work of veins, but neither hairy nor ribbed; often coloured. *Petals* white, (it is said sometimes red, but I have not seen them so,) cloven, segments rounded, very entire; the crown formed by two little plaits in each petal. *Styles* sometimes five. *Germen* oblong, mulberry coloured. *Seeds* fixed on short pedicles to the receptacle, which becomes loose. When cultivated the segments of the petals are sometimes jagged. (Few plants vary less in habit though in the number of its styles, and their corresponding fruit-cells, it varies from three, the prevailing number, to four or five. *E. bot.* E.)

Sea Champion, or Catchfly. Cucubalus Behen β. LINN. *Silene amœna*. HUDS. and LIGHTFOOT, if his references are to be trusted. In *S. amœna* the fruit-stalks are three flowered and opposite, the flowers all pointing one way; the cups hairy and with ten angles, but none of these circumstances apply to our plant. Sandy places on the sea coast. (Dickenson's Dingle, near Liverpool. Dr. BOSTOCK. E.) [Southwold, Suffolk. Mr. CROWE. Wells, Norfolk. Mr. Woodward. Coast of Wales. Mr. SAWYER. Portreath, near Hayle, Cornwall. Mr. WATT. And on almost all the Western and Southern coast.] (Dr. SMITH adds it is also truly alpine, flowering in the stony beds of mountain torrents. E.)
P. April—Aug.

(3) *Flowers growing from the forks of the stem.*

S. Petals entire; flowers in flat-topped bundles; upper-Armæria. leaves heart-shaped, smooth.

E. bot. 1398—*Kniph* 8—*Fl. dan.* 559—*Clus.* i. 288. 1—*Dod.* 176. 4—*Lob. obs.* 242. 3—*H. ox.* v. 21. 26—*Ger.* 481. 2.

Whole plant smooth. Stem upright. Leaves oblong, the upper heart-shaped. Flowers terminating, the ends of the branches sub-dividing into forks, the forks close together. Petals nicked at the end. Teeth of the crown taper-pointed, open. LINN. Stem forked. Leaves sea-green, opposite. Petals pale red, slightly notched at the end.

Common Catchfly. Corn fields, and old walls. Banks of the river half a mile below Chester. (In a corn field at Weybridge, with *S. anglica*. Mr. BORRER, in *Bot. Guide.* E.) [Common in gardens.]
A. July—Aug.

S. Petals cloven; calyx of the fruit conical, with 30 scores; co'nica. leaves soft.

E. bot. 922—*Jacq. austr.* 253—*J. B.* iii. 350. 1—*Lob. ic.* i. 338. 2—*Ger. em.* 470. 6—*Park.* 633. 11.

Capsule 1-celled. HALLER. Plant greyish green. Leaves opposite, united at the base. Flowers fine red.

Corn Catchfly. Sandy corn fields. A little to the North of Sandown Castle, plentifully. Mr. J. SHERARD and Mr. RAND. *R. Syn. ed.* iii. (Opposite the Warren house at New Romney, Kent. Rev. Mr. STACEY.—Hebburn Ballast, Durham. Mr. WAUGH, in *Bot. Guide.*—Common on the range of Sand Hills, beginning at Deal and running eastward of Sandwich. DILLWYN, ditto. E.)
A. June—July

noctifló'ra. S. Petals cloven; calyx with 10 angles; the teeth as long as the tube; stem forked.

E. bot. 291—*Cam. hort.* 34—*H. ox.* v. 20. 12.

Stem upright, hairy, clammy. *Leaves* broad-spear-shaped, hairy. *Flowers* solitary, on fruit-stalks, slanting, whitish. *Calyx* cylindrical; when in fruit, globular-egg-shaped, full of seed, scored, with a net-work of veins; teeth nearly as long as the calyx. *Flower* opening in the night sweet scented in the summer, not so in the autumn. LINN. *Leaves* growing together at the base. *Flowers* few, in the bosom of the upper leaves, and terminating, mostly nodding. *Seed-vessel* upright. Mr. WOODWARD. *Blossom* whitish, with a pinky tinge, only expanded in the evening.

Night-flowering Catchfly. Corn fields. Between Newmarket and Canvass-hall in Wood-ditton. About Norwich. [Sandy fields, Norfolk, frequent. Mr. WOODWARD.]—(Very common about Wetherby. Sir T. FRANKLAND.—Cornfields at Headington, Stanton Harcourt, &c. Oxon. SIBTHORPE.—Sunderland Ballast Hills. Mr. WEIGHELL. E.)

(4) *Stemless.*

acau'lis. S. Depressed; petals notched at the end; capsules globular.

Dicks. h. s.—*E. bot.* 1081—*Lightf.* 12. at p. 221—*Fl. dan.* 21—*Dill. elth.* 167. 206—*Allioni.* 79 1—*Pona ap. Clus.* ii. 341. 2—*Ger. em.* 593. 8—*Barr.* 380—*Park.* 639. 10—*J. B.* iii. 768—*Pet.* 56. 4.

Forms a thick turf. *Leaves* awl-shaped, smooth, but the edges beset with hooked teeth pointing downwards. *Flowers* single, bright purple. *Fruit-stalks* sometimes not half an inch high, but lengthening as the fruit advances to maturity, to one or two inches. *Petals* inversely heart-shaped, with two small teeth forming the crown. *Capsule* as long again as the calyx, smooth, shining, tinged with purple. Mr. WOODWARD. (Dr. Smith well observes that the term *stemless* is not strictly applicable to this plant, but rather alludes to its appearance at first sight. E.)

Moss Catchfly. Moss Campion. Mountains of Caernarvonshire, near Llanberis, Dartmoor, Devonshire; Isles of Mull, Rum, and Skye, Highland Mountains. [Ben Lomond. LIGHTFOOT. Dr. J. E. SMITH.—Malghyrdy and Ben Vurloch. Mr. BROWN.] P. May—June.

STELLARIA. *Cal.* 5 leaves, expanding: *petals*
5, mostly divided down to the base: *caps.*
1 cell: *seeds* many.

S. Lower leaves heart-shaped, on leaf-stalks; panicle with nem'orum.
forked fruit-stalks.

E. bot. 92—*Kniph.* 10—*Fl. dan.* 271—*H. ox.* v. 23. 2—*Park.*
762. 1—*Col. Ecphr.* 290. 2.

From five to twelve inches high. *Stems* very brittle. Whole
plant hairy. *Leaves* rather stiff, underneath hairy only on the
veins and mid-rib. *Fruit-stalks*, the lateral ones solitary, the
terminating ones forming a kind of leafy panicle, widely apart
and rather turned down after flowering. *Flowers* white.
Styles 3, but in the *Cerastium aquaticum* always five, so that
how much soever they may resemble each other in general habit
they cannot well be mistaken.

Broad-leaved Stitchwort. *Wood Stitchwort.* Woods, moist
hedges and banks of rivers, in the Northern counties. [By
Casterton Mill, near Kirkby Lonsdale, Westmoreland. Dr. J.
E. SMITH.—Near Kendal. Mr. GOUGH.—Baydales, near Dar-
lington. Mr. ROBSON.]—(Shady woods near Stockport, Cheshire.
Mr. G. HOLME.—Cooms wood and Dunmallet, Cumberland.
HUTCHINSON.—By Aspatria Mill, Cumberland. Rev. J. DODD,
in *Bot. Guide.*—Bedmish and Ravenworth woods, Durham;
and banks of the Tyne, between Lemmington and Newburn.
Mr. WINCH, ditto. E.)

P. June.

S. Leaves spear-shaped, very finely serrated; petals cloven. *Holo'stea*.

Dicks. h. s.—*E. bot.* 511—*Curt.*—*Kniph.* 10—*Walc.*—*Mill. ill.*
—*Fuchs.* 136—*J. B.* iii. 361. 2—*Trag.* 329—*Dod.* 563—*Lob.*
obs. 26. 2—*Ger. em.* 47—*Park* 1325—*Pet.* 58. 1—*Ger.*
43. 1.

Leaves strap-spear-shaped, in pairs, at the joints of the stem,
sitting; the edges rolled inwards, set with fine prickles; mid-
rib underneath beset with small prickles; above smooth, and
marked with a hollow groove running lengthwise along the
middle. *Flowers* white.

Greater Stitchwort. Hedges and woods, common.

P. April—May.

S. Petals deeply divided; leaves egg-heart-shaped; stems me'dia.
with a hairy ridge on one side,

E. bot. 537—*Fl. dan.* 525, and 438—*Curt.-Sheldr.* 9—*Walc.-Dod.* 29. 2—*Lob. obs.* 245. 3—*Ger. em.* 611. 2—*Park.* 760—*H. ox.* v. 23. 4—*Blackw.* 164—*Fuchs.* 21—*J. B.* iii. 6. 363—*Trag.* 385—*Lonic.* i. 167. 1 and 2—*Ger.* 488. 2. and 489.

This very common plant which grows almost in all situations from damp and almost boggy woods to the driest gravel walks in gardens, is consequently subject to great variations in its appearance. Those who have only seen it in its usual state as garden *Chickweed*, would hardly know it again in woods where it sometimes exceeds half a yard in height, and has leaves near two inches long, and more than one inch broad; resembling in its habit the *Stellaria nemorum*, or the *Cerastium aquaticum*; distinguishable however from the latter by the number of pistils, and from the former by the woolly or hairy ridge extending along the stem.

The great uncertainty in the number of stamens occasions some difficulty to the young botanist. In its truly wild state, in damp woods and hedge bottoms with a northern aspect, whatever be its size, it has almost always ten stamens. In dryer soils and more sunny exposures the stamens are usually five or three; and this is also generally the case in gardens, though sometimes flowers are found with only one or two stamens. The calyx in all these different states is sometimes smooth, sometimes hairy. The other parts of the fructification are very constant, and the capsule opening with six valves, compels us to consider it as a species of *Stellaria* rather than as an *Alsine*; its further agreement with the former genus will also be evinced by the following description.

STEM, thickest upwards, smooth and cylindrical, except a ridge on one, rarely on two sides, and this ridge is woolly.

Leaf-stalks broad, hollowed on the upper surface, convex underneath.

LEAVES, the lower on leaf-stalks, the upper sitting; opposite, varying from heart to heart-spear-shaped, and egg-spear-shaped, tapering to a point, smooth, sometimes hairy at the edges.

FRUITST. mostly terminating, $1\frac{1}{4}$ to $\frac{1}{2}$ an inch long, 1-flowered, hairy, standing out horizontally, or even pointing downwards after flowering.

CALYX, 5-leaved, *leaflets* concave, between egg and spear-shaped, permanent, either hairy or smooth.

BLOSS. *Petals* 5, deeply divided, segments flat, betwixt spear and egg-shaped, shrivelling,

STAM. *Filaments* 10, the 5 outer shorter than the 5 inner ones, glandular at the base. *Anthers* small, oblong, double.

PISTIL. *Germen* roundish, with 3 blunt corners and 3 flattened sides. *Styles* 3, hair-like, expanding, after flowering reflected. *Summits* simple, blunt.

S. VESS. *Capsule* roundish, covered by the calyx closing upon it, of 1 cell and 6 valves.

SEEDS many, roundish, compressed, rough with tubercles, fixed to the receptacle.

Common Chickweed. Alsine media. LINN. Alsine media. pentastemon, or 5-stamened, fl. dan. 525; Bot. arr. ed. ii. 323. *Alsine media* decastemon, or 10-stamened, fl. dan. 438; Bot. arr. 324. A. March—Oct.*

S. Leaves strap-shaped, very entire; flowers in panicles. gramin'ea.

E. bot. 803—*Kniph.* 10—*Gmel.* iv. 61. 2—*Pet.* 58. 3—*Ger.* 43. 2—*J. B.* iii. 361. 3.

Calyx leaves ribbed, in the *S. Holostea* not so. Dr. STOKES. *Leaves* strap-spear-shaped. *Petals* as long as the cup; white.

Lesser Stitchwort. Meadows, pastures, hedge banks.

A. May.

(S. Stem shorter than the fruit-stalks; leaves strap-spear-shaped, rough at the edge; calyx 3-nerved, nearly as long as the petals.

E. bot. t. 1269.

* Flowers upright, and open from 9 in the morning to noon; but rain prevents their expanding. After rain they become pendent, but in the course of a few days rise again. Capsule opens with 6 valves, letting fall the seeds. Seeds round, compressed, yellow, rough with little tubercles. Blossom white.—This species is a notable instance of what is called the *Sleep of Plants*—for every night the leaves approach in pairs, so as to include within their upper surfaces the tender rudiments of the new shoots; and the uppermost pair but one, at the end of the stalk, are furnished with longer leaf-stalks than the others, so that they can close upon the terminating pair, and protect the end of the branch. LINN. The young shoots and leaves, when boiled, can hardly be distinguished from spring spinach, and are equally wholesome. Swine are extremely fond of it; cows and horses eat it; sheep are indifferent to it; and goats refuse it. It is a grateful food to small birds and to young chickens.

Stem very short, hairy, thickly set with leaves. *Leaves* not glaucous, opposite, strap-spear-shaped, sharp-pointed, smooth, 1-fibred, not 3-fibred; nerve very thick at the base, towards the point scarcely perceptible, border rough and slightly scoloped. *Fruit-stalks* very numerous, axillary, upright, far exceeding the stem, generally two inches long, 4-cornered, smooth, often undivided. *Blossoms* white, inconspicuous. *Leaflets of the calyx* 3-fibred, sharp-pointed, membranaceous at the edge, almost as long as the petals. *Anthers* red. *Fl. Brit.* The leaves turn red in decay, and remain long on the stem. *E. bot.*

Many-stalked Stitchwort. *Stellaria scapigera*. WILLDEN. Sp. Pl. By the sides of rivers in Scotland. In Perthshire and about Loch Nevis, Inverness-shire. Mr. G. DONN, in *Fl. Brit.* P. Summer. E.)

glauc'a.

S. Leaves spear-strap-shaped, very entire, glaucous green, in cross-pairs; petals half as large again as the calyx. *Fl. ox.**

E. bot. 825—*Pet.* 58. 2.

Corners of the stem roughish. *Leaves* strap-shaped, acute, very entire; but when magnified the edges appear set with very minute teeth, though not rough to the touch. *Panicle* lateral. *Petals* not quite twice the length of the calyx. The *stem* and *leaves* appear under a lens sprinkled with numerous, minute, white dots, and its glaucous colour is owing to this circumstance. Mr. BROWN.

Differs from the *S. graminea*, not only in having shorter and stiffer stems, but the leaves also are more rigid, glaucous and acute, and the flowers are larger. *Ray, Syn.* 347. 3. *Flowers* white.

Glaucous-leaved Marsh-stitchwort. *S. media*. Fl. ox. *S. graminea*. β. HUDS. On ditch banks in the Isle of Ely, plentiful. RAY.—Otmore, Oxfordshire. SIBTHORP.—Marshy ground on the top of Braid-hill, near Edinburgh. Mr. BROWN.—(On St. Faith's Newton bogs, near Norwich. Dr. SMITH.—Marshes near Beverley. Col. MACHELL.—Common near Copgrove, Yorkshire. Rev. J. DALTON.—Side of clear strams near Tunbridge Wells. FORSTER; and various other parts of Sussex; Battersea fields, near Nine Elms. SOWERBY. *Bot. Guide.* E.) About Falmouth. P. June—July.

* As it appears necessary to introduce the *Alsine media* into this genus, the trivial name affixed to this plant by Dr. Sibthorpe could not well be retained.

S, Leaves spear-shaped, very entire; stems trailing; panicles lateral. SCHREB.

E. bot 1074—*Pet.* 58. 4—*Ger.* 490. 9—*Ger. em.* 613. 8—*H. ox.* v. 23. 8—*J. B.* iii. 365. 2.

Leaves fringed at the base. *Fruit-stalks* from about the middle, and from near the end of the stem, in threes, from the bosom of the leaves, the two lateral ones dividing into three, and bearing three flowers. *Petals* shorter than the calyx, divided down to the base, the segments distant. *Stamens*, five inserted into the claws of the petals, the other five into as many glands, surrounding the germen. LEERS. *Stems* several, from two to twelve inches high, square, weak, and sometimes creeping at the base, above upright, extending beyond the panicles, but little branched; branches upright. *Leaves* smooth, except at the base, sitting or tapering down into short leaf-stalks, upright. *Panicles* pointing one way, sitting, upright, generally two on each stem; mostly consisting of three primary branches, the outermost bearing a single flower; the other two, in the more luxuriant plants, dividing into forks, with a fruit-stalk bearing a single flower at each fork; the shorter as long again as the single fruit-stalk; and the third nearly as long again as the second. *Flower-scales* two at each fork of the panicle. *Petals* white; segments strap-shaped. *Styles* sometimes four and five. ST.—(The peculiar inflorescence, the short petals, and the form and structure of the leaves, mark *S. uliginosa* with sufficient precision. *E. bot.* E.)

Bog Stitchwort. Fountain Chickweed.—*S. uliginosa.* SCHREB. consp. pl. ap. spicileg.—*S. dilleniana.* LEERS.—*S. graminea* γ. LINN. *fl. suec.* 393, and *Huds. fl. ang.* 190. Lightf. β.—*Alsine longifolia uliginosis proveniens locis.* J. B. iii. 365. R. *Syn.* 347.—*Alsine fontana.* Ger. 490, em. 613.—*Alsine aquatica media.* Bauh. pin. 251.—*Alsine.* Hall. n. 882. β. Sides of springs, rivulets, ditches, and boggy meadows. [Rivulets on the side of Malvern Hills, and on the side of the hill at the west end of Powick's Ham, near Worcester. ST.—Moist grounds, near Leeds. Mr. WOOD.—Marshes in Cornwall. Mr. STACKHOUSE. Hockley Pool dam, near Birmingham.] A. June.

S. Leaves oblong; fruit-stalks mostly 2-flowered: (calyx-cerastoides. leaves with a single nerve, downy. E.)

Dicks. h. s.—*Smith pl. ic.* 15—*E. bot.* 911—*Fl. dan.* 92—*Gunn.* ii. 62—*Jacq. coll.* i. 19.

Stems trailing; flowering branches ascending, naked, cylindrical, smooth. *Leaves* sitting, opposite, egg-oblong, blunt, very smooth. *Flowers* terminating, one, two, or three, on long

fruit-stalks, the lateral ones with a pair of floral-leaves. *Petals* cloven, white. LINN and SMITH. It is certainly a *Cerastium*, differing only in the number of styles, a difference by no means constant. I have found it with four and five, but, I confess, more frequently with three only. Its resemblance to *C. arvense* is very striking. MR. BROWN.

Alpine Stichwort. Found by Mr. DICKSON on Ben Nevis, Scotland. [On the side of Ben Bourde, a high mountain seven miles from Invercauld. MR. BROWN.] Aug.

ARENA'RIA. *Cal.* 5 leaves, expanding: *petals* 5, entire: *caps.* 1-celled, many-seeded.

peploï'des. A. Leaves egg-shaped, acute, fleshy.

Dicks. h. s.-E. bot. 189—*Fl. dan.* 624—*Pet.* 65. 9—*Ger. em.* 622. 1.

Glands on the receptacle. LINN. *Leaves* egg-spear-shaped, somewhat embracing the stem, smooth, succulent, the petals turned back. *Flowers* white.

Sea Sandwort. Sea shore frequent, and salt water marshes. (About Scarborough so abundant as to be frequently used as a pickle. MR. TRAVIS. E.) P. June—July.

triner'vis. A. Leaves egg-shaped, 3-fibred, pointed, on leaf-stalks.

Curt. 272—*E. bot.* 1483—*Walc.-Fl. dan.* 429—*J. B.* 364. 1—*Pet.* 59. 1.

Stems reclining, downy, cylindrical, several growing together in tufts. *Branches* mostly from the upper side. *Leaves* beset with very short fine hairs, and fringed with short fine bristles; the lower nearly heart-shaped, on flat leaf-stalks; the upper spear-egg-shaped, nearly sitting. *Petals* expanding, half as long as the calyx; white. *Stamens* as long as the cup; every other shorter. *Styles* sometimes two or four. *Summits* bent back, woolly. Has greatly the habit of *Stellaria media*.

Plantain-leaved Sandwort. Woods and wet hedges.

A. May—July.

serpylli-fo'lia. A. Leaves somewhat egg-shaped, acute, sitting; blossoms shorter than the calyx

Fl. dan. 977—*Curt.* 268—*E. bot.* 923—*Ger.* 488. 3—*Dod.* 30. 1—*Lob. obs.* 246. 2—*Ger. em.* 612. 3—*Park.* 1259. 3—*Pet.* 59. 2.

(*Leaves* of the *calyx* ovate, acute, hairy, with a white, membranaceous edge; the three outermost furnished with five ribs, the two inner ones with only three. The number of the ribs of the *calyx* is of great importance for discriminating the species of this genus, as in *Linum*. *E. bot.* E.) *Stems* spreading, forked upwards. *Leaves* stiffish, somewhat woolly. *Flowers* white.

Least Chickweed. Thyme-leaved Sandwort. Roofs, walls, sandy and very dry places. A. May—July.

A. *Leaves* semi-cylindrical, tapering, opposite, as long as the joints; stipulæ membranaceous, acute; stems prostrate; capsules longer than the calyx.

E. bot. 958—*Fl. dan.* 740—*Pet.* 59. 7—*H. ox. v.* 23. 15.

(The figure in *E. bot.* agrees well with the specimens in our herbarium, called *A. marina*, which we accordingly refer as the same plant as the *A. marina* *Fl. Brit.* though Dr. Smith seems to apprehend his plant must be the *A. media* of With. which indeed may prove to be the *A. marina* β . of *Fl. Brit.* E.) *Leaves* frequently longer than the joints. Mr. WOODWARD. *Leaves* and fruit-stalks woolly and clammy. LINN. *Stamens* variable in number. RELHAN. *Seeds* bordered. *Flowers* purplish.

Sea Spurrey Sandwort. A. rubra. β . LINN. *A. marina.* *Fl. Brit. & E. bot.* Salt marshes, and on the sea coast, common. [Portreath, near Redruth, Cornwall. Mr. WATT.—In a salt marsh near Shirley Wich, Staffordshire. ST. Teignmouth, Devon, and Fresh Water Cove in the Isle of Wight.]

P. May—Oct.*

A. *Leaves* thread-shaped, opposite, but half the length of the joints of the stem; stem prostrate; calyx as long as the capsule.

E. bot. 582—*Kniph.* 11—*J. B.* iii. 722. 3—*Pet.* 59. 8.

Stipulæ membranaceous, sheathing. LINN. *Stamens* 5; styles from 3 to 5. HALLER. *Stems* smooth. *Leaves* flatted, smooth, terminated by a little sharp point. *Calyx* leaves spear-shaped, concave, membranaceous at the edge, clammy, and beset with minute hairs with globular heads. *Summits* woolly. *Petals* purple.

Purple Spurrey or Sandwort. Sandy meadows and corn-fields. A. June—Aug.

* It is succulent, and very much resembles Samphire, and considerable quantities of it are actually pickled and sold for that plant. Mr. WATT.

me'dia,

A. Leaves strap-awl-shaped, 6 in a whirl; stem upright; capsules twice the length of the calyx.

Ephem. act. nat. cur. 5. s. 6. t. 4. (Reichard and Gmelin.)

Smaller than *A. marina*. Stem, knots more distant than in *A. rubra*. Flowers somewhat smaller than in either. Seeds smaller than those of *A. marina*, variable in shape, but in general not bordered. RAY. Resembles *A. marina*, but less branched; stems more bent, pubescent. Flowers white; petals scarcely larger than the calyx. Seeds bordered. LINN. Pistils 5. POL-LICH. Lower leaves expanding, reflected, upper ones about the length of the joints. Stamens 4, 5, or 7. Petals purple. Seeds flat, between half heart-shaped and kidney-shaped, the circular edge downy, with an elevated rounded border, the straight edge plain, dark brown; some encompassed with a membranaceous border, deeper than half the breadth of the seed, white, with radiated scores, toothed at the edge. So remarkable a difference in structure one might have expected to afford a mark of specific distinction, but though generally the two kinds of seeds are found on different plants, yet they are sometimes seen in the same seed-vessel. Dr. STOKES. *Spergula maritima flore parvo cæruleo, semine vario*. Ray Syn. 351, according to Hudson.

Pastures on the sea coast. HUDS.—With *A. marina* on Shell-coast in the Isle of Sheppey. RAY. A. June—Sept.

It is not quite clear that this plant of Ray and Hudson is the real *A. media* of Linn. It may be only a var. of the *A. marina*. (A further examination of specimens and figures induces me still more strongly to this opinion, and I much suspect this plant may prove *A. marina* β. of Fl. Brit. instead of the first variety as Dr. Smith seems to imagine. E.)

ver'na.

A. Leaves awl-shaped; stems panicled; calyx taper-pointed, scored.

E. bot. 512—*Jacq. austr.* 404—*Pet.* 59. 4—*Herm. par.* 12.

Differs from *A. saxatilis* in its stems being scarcely a hand's breadth high, and beset with scattered hairs. Fruit-stalks hairy. LINN.

Mountain Sandwort. Mountainous situations about Settle, Kendal, Holywell, and Llanberis. [Arthur's seat, Edinburgh. ST.—Matlock, Derbyshire, and in the Northern counties. Mr. WOODWARD.—Road side between Holywell and St. Asaph. Mr. WOOD.—Blackford and Braid Hills, and on Craig Lochart, all near Edinburgh. Mr. BROWN.—Snowdon, and Holywell. Mr. GRIFFITH.] P. May—Aug.

- A. Leaves awl-shaped; stems paniced; capsules upright; tenuifo'lia. petals shorter than the calyx, spear-shaped.

Dicks. h. s.—E. bot. 219—*Vaill.* 3. 1—*Fl dan.* 389—*Sequier.* i. 6. 2—*J. B.* iii. 364. 3—*Pet.* 59. 3.

Leaves awl-shaped, connected at the base. *Calyx* leaves greatly tapering, or rather awned, painted underneath with two green lines. *Petals* broad-spear-shaped, half as short again as the calyx. LINN. *Flowers* white, only one upon a fruit-stalk, but these so numerous as to resemble a panicle. *E. bot.* The petals being shorter than the calyx, distinguishes this from the preceding, and from the two subsequent species. It is also much taller and much more branched than any of them, often attaining the height of eight or nine inches.

Fine-leaved Sandwort. Sandy meadows and pastures. Cornfields on the borders of Triplow Heath; Gogmagog Hills, Cambridgeshire. Near Deptford; Cornbury Quarry, near Charlbury, Oxfordshire. On a wall in Battersea. [Near Cley, Norfolk. Mr. CROWE,—Near Bury. Mr. WOODWARD.—Malvern Hill, Worcestershire, Mr. BALLARD.] A. June—July.

- A. Leaves awl-shaped, stiff and sharp; stems upright; cups juniperi'na. scored; capsules oblong.

Ger. fl. prov. 15. 1.

Stem five or six inches high, stiff and straight, smooth. *Leaves* awl-shaped, not easily bending, straight, sharp-pointed at the end, and thorny. *Flowers* in a bunch. *Calyx* oblong, acute, with five fibres. *Petals* spear-shaped, white. *Capsule* oblong, a little longer than the calyx. LINN.—Near four inches high. *Root-leaves* in bundles, very slender but strongly ribbed, pointed. *Panicle* few-flowered. *Petals* white, rather longer than the leaves of the calyx.

A. verna. var. β. Fl. Brit. Specimen from Mr. GRIFFITH, who gathered it near Llanberis, (Rocks near Tŵl dû, and on Clogwyn y Garnedd. BINGLEY. E.) P.

- A. Leaves bristle-shaped; stem rather bare above; calyx laricifo'lia. somewhat hairy.

Jacq. austr. 272—*Magn. hort.* 2—*J. B.* iii. 360. 2.

Capsule oblong, streaked, cylindrical, downy. LINN.

Large-leaved Sandwort. *A. verna. var. γ.* Fl. Brit. Mountains in the North. [On Snowdon. Mr. GRIFFITH.]

P, July—Aug.

The last four species are not easily to be distinguished by the specific characters. The leaves in all are very slender, the stems more or less hirsute, as are also the calyxes; the calyx leaves are ribbed, and they all bear their flowers in panicles. The best distinctions may perhaps be taken from the consideration of the calyx leaves and petals, thus:

In *A. tenuifolia*, the calyx leaves are spear-awl-shaped, much longer than the petals.

..... *laricifolia*, the calyx leaves are strap-spear-shaped, and shorter than the petals.

..... *verna*, the calyx leaves are spear-shaped and shorter than the petals.

..... *juniperina*, the calyx leaves are egg-shaped, scarcely hirsute, and nearly as long as the petals.

CHERLE'RIA. *Cal.* 5 leaves: *nectaries* 5, cloven, resembling petals: *anthers*, every other barren: *caps.* 1 celled, 3-valved, 3-seeded,

sedoides. C.

Dicks. h. s.—Jacq. austr. 284—*E. bot.* 1212.—*Hall. opusc.* 1. 3. at p. 300—*Hall.* 21. 1. at. ii. p. 114—*Penn. voy.* 33—*Pluk.* 42. 8—*Park.* 737. 11—*H. ox.* xii. 6. 14.

Leaves opposite, strap-shaped, rough at the edge, connected at the base into a kind of sheath. When the leaves fall off, the sheath and keel of the leaves remain, cloathing the stem, whence it has an affinity to the Gilliflower tribe. LINN.

Moss-like-Cyphel. Highland mountains, near their summits. [On Ben Teskerney and Craig Calceach; and in immense quantity on Ben Lawers, but only at truly alpine elevations. Mr. BROWN.] P. July—Aug.

PENTAGYNIA.

COTYLE'DON. *Calyx* 4 or 5 cleft: *bloss.* 1 petal: *nectariferous scales* 5, at the base of the germens: *caps.* 5.

Umbili'cus. C. Leaves target or kidney-shaped, scolloped; stem nearly simple: flowers pendent: floral-leaves entire. HUDS.

Clus. ii. 63. 1-*Blackw.* 263-*Dod.* 131. 1-*Lob. obs.* 209. 3.
Ger. em. 528. 1-*Park.* 740. 1-*Ger.* 423. 1-*J. B.* iii. 684.
 1-*Matth.* 1122.

Root oblong, sometimes the size of a nutmeg, flat at bottom, covered with small fibres, but no extended roots. Mr. STACKHOUSE. Whole *plant* fleshy. *Leaves* thick, fleshy, circular, with central leaf-stalks, concave on the upper surface, with a hollow dimple nearly in the center, just opposite to the insertion of the leaf-stalk underneath. *Stem-leaves* resembling the root-leaves, but not so exactly circular, and the leaf-stalk not fixed so nearly in the centre. *Stem* upright, clothed with a long spike-like bunch of pendent flowers, but in the smaller plants the flowers are sometimes upright or horizontal. *Floral-leaves* strap-spear-shaped, entire, *Bloss.* tubular, five-sided, pale greenish yellow.

Common Navelwort. Kidneywort. Wall Pennywort. C. umbilicus β. LINN. Old walls and moist rocks. West of England. Caernarvonshire, and about Troutbeck, Westmoreland, [Old walls at Peterborough; and Thorpe, between Peterborough and Wandsford. Dr. J. E. SMITH, and Mr. WOODWARD. Walls, Cornwall, Mr. WATT. Plentifully throughout Caernarvonshire and Merionethshire. Mr. WOOD. Malvern Hill, Worcestershire. Mr. BALLARD. St.] (On old walls about Liverpool. DR. BOSTOCK and Mr. SHEPHERD. E.) In Devon and Cornwall, very luxuriant. On walls, roofs, and rocks.
 P. June—Oct.

C. Leaves target-shaped, scalloped: stem nearly simple: *lu'tea*. flowers upright: floral-leaves toothed. HUDS.

E. bot. 1522-*Dodart.* 73. *at. p.* 265. (*I have not seen.*)

Roots knotty, creeping. MORISON.—(*Stem* one to two feet high. *Flowers* thickly studded on a cylindrical spike. *Blossoms* bright yellow. *Stamens* yellow. E.)

Yellow Navelwort. C. umbilicus α LINN. Walls and moist rocks in the West Riding of Yorkshire. Mr. TOFIELD. In the garden of Mr. Clement, who received it out of Somersetshire. HUDSON.
 P. June.

SE'DUM. *Cal.* 5-cleft: *bloss.* none, or 5 petals: *nectariferous scales* 5, at the base of the *germens*: *caps.* 5, distinct like a legumen.

(1) *Leaves flat.*

S. Leaves flattish, serrated: corymbus leafy: stem up-Tele'phium, right.

Var. 1. White-flowered.

E. bot. 1319—*Kniph.* 4—*Ludw.* 200—*Fuchs.* 800—*J. B.* iii. 681—*Matth.* 636—*Clus.* ii. 66. 2—*Dod.* 130. 2—*Lob. obs.* 211—*Ger. em.* 519. 2—*Park.* 726. 2—*H. ox.* xii. 10. row 1. 1—*Ger.* 416. 2—*Blackw.* 191. 2.

More rarely met with than the following.

Var. 2. Purple-flowered.

Curt. 210—*Fl. dan.* 686—*Fuchs.* 801—*Kniph.* 4—*Clus.* ii. 66. 1—*Ger.* 417. 1—*H. ox.* xii. 10. row 1. 2—*Blackw.* 191—*Lon.* ii. 24. 2—*Trag.* 373.

Orpine Stonecrop. *Live-long.* Pastures and hedges. [Sandy fields, Suffolk, frequent. Mr. WOODWARD. Near Ashborn. Mr. WHATELY. Fields about Robinson's End. Malvern Chace. Mr. BALLARD. Many hedges about Manchester. Mr. CALEY. Crevices of the rocks on Haugheman Hill, near Salop. Mr. AIKIN. In a pasture by the mount at Mr. Pearson's, Tettenhall, Staffordshire.] P. Aug.*

(2) *Leaves roundish, nearly cylindrical.*

villosum.

S. Hairy and viscid; leaves flattened, both them and the leaf-stalks hairy; stem upright, somewhat branched at the base.

Fl. dan. 24—*E. bot.* 394—*Clus.* ii. 59. 3—*Ger. em.* 516. 1—*Park.* 734. 6—*H. ox.* xii. 8. 48—*Pet.* 42. 7.

Stem smooth below, hairy and clammy above. *Leaves* fleshy, oblong, nearly flat above, hairy, the lower ones smooth. *Fruit-stalks* hairy, clammy, solitary. *Calyx* hairy. WOODWARD. *Stem* upright, from three to five inches high. *Flowers* flesh-coloured.

Marsh Stonecrop. Moist mountainous meadows and pastures. Moist rocks about Ingleborough Hill, Yorkshire, and Hartside Hill, near Gamblesby, Cumberland. RAY. Mr. WOODWARD. Hinkleham, near Settle, Scotland. [Carr End, Wensley-date, Yorkshire. CURTIS. Close by Weathercoat Cave, at the foot of Ingleborough. Mr. WOODWARD. A common plant on the banks of streams in Scotland, which run from moorish grounds. Dr. HOPE.] (Near Bootle, in the neighbourhood of Liverpool. Mr. JAMES ROSCOE,—By recent observations proved to be perennial. *Fl. Brit.* E.)

P. June—July.

* A decoction of the leaves in milk is a forcible diuretic. It has been given with success to cure the piles.—Cows, goats, sheep, and swine eat it; horses refuse it.

S. Leaves oblong, blunt, nearly cylindrical, sitting, ex- al'bum, panding; tuft branching.

Curt.-E. bot. 1578.—*Fl. dan.* 66—*Blackw.* 428—*Allioni* 65.
2—*Ger.* 413. 2—*Clus.* ii. 59. 1—*Dod.* 129. 2—*Lob.* obs.
205. 2—*Ger. em.* 512. 2—*Park.* 734. 1—*H. ox.* xii. 7. 23—
Fuchs. 35—*Trag.* 378—*J. B.* iii. 690—*Walc.-Lonic.* i.
60. 1.

Stems trailing, striking root; flowering branches upright, bearing a forked tuft of flowers with subdivided fruit-stalks. *Leaves* semi-cylindrical, being flatted above and loose underneath at the base, *Flowers* white, but with reddish streaks, and a general blush of red, and the whole plant has sometimes a purplish tinge.

White-flowered Stonecrop. Sedum minus teretifol. alb. R. Syn. p. 271. *St.* Walls and roofs. [Walls at Peterborough. Mr. WOODWARD. Rocks above Great Malvern. NASH. Wick Cliffs. Mr. SWAYNE.] (Mountains about Winandermere. Dr. MATON, Rydal. Rev. J. DODD. At Stackpole Quay, Pembrokeshire, in abundance. Mr. MILNE. *Bot. Guide. E.*)

P. June—July.

S. Leaves nearly egg-shaped, growing to and sessile, a'cre. bulging, nearly upright, alternate; tuft with three divisions.

Curt.-E. bot. 830—*Woodv.* 231—*Sheldr.* 42—*Fuchs.* 36—*J. B.* iii. 694. 2—*Trag.* 379—*Blackw.* 232—*Ger.* 415—*Clus.* ii. 61. 1—*Ger. em.* 517. 2—*Park.* 735. 7—*H. ox.* xii. 6. row 3. 12—*Pet.* 42—. 9—*Dod.* 129. 3—*Lob.* obs. 205. 4—*Park.* 735. 8—*Matth.* 1119—*Lonic.* i. 59. 2.

Shoots club-shaped, closely tiled with leaves on every side. *Flowers* terminating; yellow.

Biting Stonecrop. Wall Pepper. Walls, roofs, rocks, and dry pastures.

P. June—July.*

* It is very acrid. Applied externally it blisters. Taken inwardly it excites vomiting. In scorbutic cases, and quartan agues, it is an excellent medicine under proper management. This plant continues to grow when hung up by the root, which has been considered as a proof that it receives its nourishment principally from the air; but from some accurate experiments made by Mr. Gough of Kendal, and communicated to me, it appears that though the life of the plant be retained in such a situation for some weeks, it seems to be at the expence of the juices which its succulent leaves had previously imbibed. At the end of three weeks, the plant suspended in June, before a window with a northern aspect, had lost about half its weight, though it had put out some fine fibres from the root, and had still life enough to enable it to turn to the light after having been purposely turned from it. After being kept in water for 24 hours, it regained more than half of what it had

sexangula're, S. Leaves somewhat egg-shaped, growing to and sessile, bulging, nearly upright, tiled in six rows.

Curt. 225—*E. bot.* 1946.

Agrees with the *S. acre* in appearance, flowers, and situation, but differs in its leaves being, before blossoming, evidently tiled in 6 rows, and instead of having a biting, acrid taste, being insipid. *Branches* never so copious as to form a tuft. *Flowers* in each branch of the tuft seldom more than 3. LINN. *Flowers* yellow. Number of stamens, &c. uncertain, varying from 8 to 12. The rows of leaves most obvious in the young shoots.

Insipid Stonecrop. Walls, roofs, and dry pastures. (On the walls of Old Sarum. Mr. TURNER, in *E. bot.*—Near Scarborough. Mr. TRAVIS. E.)—Near Northfleet and Sheerness, the Isle of Sheppey, and South side of Greenwich Park Wall, near the Western corner. P. June—July.

an'glicum S. Leaves somewhat egg-shaped, growing to and sessile, bulging, alternate; tuft branched, forked. HUDS.

Fl. dan. 82—*E. bot.* 171—*Ray* 12. 2. at p. 326—*Pet.* 42. 10.

Root branching. *Stem* trailing, cylindrical, leafy, smooth, branching, reddish. *Branches* alternate. *Leaves* tiled generally in 3 rows, somewhat pointed, flattish above, bellying underneath, pulpy, naked. *Tuft*, branches somewhat bowed back. *Flowers* sitting, pointing one way. *Blossom* white, or purplish white. *Capsules* purplish. HUDSON.

English Stonecrop. *S. rubens.* LIGHTF. Rocks, roofs, walls, in Wales and the North of England. [On all the coast of Suffolk. Mr. WOODWARD.—Rocks between Dundee and Broughty Castle. Mr. BROWN.—On rocks on the Devonshire and Cornish coasts, and on roofs at Penzance in profusion. On Dartmoor.]

P. May—June.

dasyphyl'um. S. Leaves opposite, egg-shaped, blunt, fleshy; stem weak; flowers scattered.

E. bot. 656—*Jacq. hort.* 153—*Curt.* 147—*H. ox.* xii. 7. 35—*J. B.* iii. 691.

Stems numerous, weak, trailing. *Leaves* broader than they are long, nearly flat above, convex underneath, sea-green with a

lost. Mr. Gough therefore very justly considers the succulent leaves as reservoirs, which support it in dry weather, and are again replenished in rainy seasons, but does not admit the common observation that it attracts its nourishment from the air more than other plants do. He used plants which had not flowered, because, after flowering, the leaves are apt to fall off. Goats eat it; cows, horses, sheep, and swine refuse it.

tinge of purple. *Flowers* few, terminating, solitary. *Fruit-stalks* branched. Mr. WOODWARD. *Flowers* whitish. *Stamens* often 11 or 12. *Pistils* and *petals* 6.

Thick-leaved Stonecrop. Walls and roofs. Market-eit near Market-street; Hammersmith and Kew. [Bugden, Huntingdonshire. HUDSON. Mr. WOODWARD. Near London. Mr. WOODWARD.] (At Clifton. near Bristol. Mr. DYER.—Walls at Malton, Yorkshire. Rev. Archdeacon PIERSON; and at Terrington. Rev. J. DALTON.—On walls at Petworth, Sussex. Mr. BORRER. *Bot. Guide.* E.) P. June—July.

S. Leaves awl-shaped, scattered, loose at the base; the reflexum, lower ones bowed back.

E. bot. 695—*Fl. dan.* 113—*Clus.* ii. 60. 2—*Dod.* 129. 1—*Ger. em.* 512. 1—*H. ox.* xii. 6. 6—*Pet.* 42. 5—*Clus.* ii. 60. 1—*Ger. em.* 513. 6—*H. ox.* xii. 6. 7—*Pet.* 42. 6—*Fuchs.* 33—*J. B.* iii. 692. 3—*Ger.* 412. 1.

Branches often reflected. *Leaves* green, frequently tinged with red, not crowded, lower ones bowed back, quickly falling off. *Calyx* segments 6 or 7. *Petals* from 5 to 7. *Stamens* 10 or 12. *Pistils* and nectaries 6. *Flowers* bright yellow.

Yellow Stonecrop, or Sengreen. Walls, roofs and rocks, frequent. [Malvern Hill. Mr. BALLARD.] P. July.

S. Leaves awl-shaped, in 5 rows, crowded, loose at the base; flowers in tufts.

E. bot. 170—*Dill. elth.* 256. 333—*Pet.* 42. 8.

Leaves sea-green, more thickly awl-shaped than in the *S. reflexum*; tiled in 5 lines. LINN. *Stems* before flowering closely tiled. *Leaves* scattered. *Flowers* in a close, thick, branched tuft. *Blossom* yellow. Mr. WOODWARD. The disposition of the leaves in 5 rows may be best observed by viewing the plant with the ends of the branches opposite to the eye. Their points are not bent back as in those of *S. reflexum*. The flowers have frequently 6 or 7 parts. *Blossoms* yellow.

Rock Stonecrop. Chedder and St. Vincent's Rocks. In Wales.—(Titterstone Clee Hill, Shropshire. Dr. EVANS.—On the Breiddin Hills, Montgomeryshire. AIKIN.—Walls about Darlington. Mr. ROBSON. *Bot. Guide.*—On a wall south of Gwydir Chapel, near Llanrwst. Mr. GRIFFITH.—Rocks and walls about the Peak of Derbyshire. E.) P. July.*

* Both this and the *S. reflexum* are cultivated in Holland and Germany to mix with lettuces in sallads. It is acrid to the taste.

OX'ALIS. *Calyx* 5 leaves ; *petals* connected by the claws ; *capsules* 5-sided, opening at the corners.

Acetosel'la. O. Stalk with 1 flower ; leaves 3 together ; leaflets inversely-heart-shaped, hairy.

Curt. 111-*E. bot.* 762-*Fl. dan.* 80-*Sheldr.* 26-*Mill. ill.*-*Walc.-Blackw.* 308-*Woodv.* 20-*Fuchs.* 567-*J. B.* ii. 387. 2-*H. ox.* ii. 17. row 4. 1-*Trag.* 521-*Mill.* 195. 2-*Dod.* 578. 2-*Lob. obs.* 499. 1-*Ger. em.* 1201-*Park.* 746. 1-*Pet.* 63. 7-*Lonic.* i. 219. 1-*Matth.* 837-*Ger.* 1030. 1-*Jacq. ox.* 80. 1.

Styles equal. *JACQ.* *Leaves* frequently purple underneath. *Leaflets* close against rain. *Flowers* large. *Petals* white, beautifully veined with purple. *MR. WOODWARD.* The *petals* are connected by small fleshy excrescences, the claws being inserted into the receptacle separate and distinct.

Wood Sorrel. Cuckoo-bread. Sour Trefoil. Woods, shady hedges, and heaths. P. April.*

Var. 2. Blossoms purple.

Lane between North Ofram and Halifax. *RAY.*

cornicul'ata. O. Stem reclining, herbaceous ; fruit-stalks forming umbels.

E. bot. 1726-*Jacq. Ox.* 5-*Fl. dan.* 873-*Clus.* ii. 249. 1-*Dod.* 579. 1-*Lob. obs.* 495. 2-*Ger. em.* 1202-*Park.* 746. 2-*J. B.* ii. 388-*H. ox.* ii. 17. row 4. 2-*Ger.* 1030. 2.

Filaments connected as in the class Monadelphia. *ST. Umbel* generally of two flowers. *MR. MARTYN.* *Seeds* brown, transversely scored, inclosed in a transparent seed-coat, which, being

* An infusion of the leaves is a pleasant liquor in ardent fevers, and boiled with milk they make an agreeable whey. *LEWIS.* Sheep, goats, and swine eat it. Cows are not fond of it. Horses refuse it. The juice is gratefully acid. The London College directs a conserve to be made of the leaves, beaten with thrice their weight of fine sugar. The expressed juice depurated, properly evaporated, and set in a cool place, affords a chrySTALLINE acid salt in considerable quantity, which may be used wherever vegetable acids are wanted. It is employed to take iron moulds out of linen, and is sold under the name of Essential Salt of Lemons.

We are lately assured that the leaves and stalks wrapped in a cabbage leaf, and macerated in warm ashes until reduced to a pulp, have been successfully applied to scrophulous ulcers. This poultice should remain on the sore for 24 hours, and be repeated 4 times. Afterwards the ulcer is to be dressed with a poultice made of the roots of the Meadow-sweet, bruised and mixed up with the scum of sour buttermilk. *BEDDOES* on *fact. Airs.*

pressed, opens with a jerk, and throws out the seed to some distance. Mr. HOLLEFEAR. *Stem* prostrate, striking root. *Styles* nearly equal. JACQUIN. *Capsules* long and pointed. *Blossoms* yellow.

Yellow-flowered Cuckow-bread or *Wood Sorrel*. *O. pusilla*. Mr. Salisbury. Linn. Tr. ii. 243. First found in Great Britain by Mr. J. Turner, in several places in the neighbourhood of Exeter. BERKENHOUT. *Outlines* ii. p. 127. Mr. MARTIN. [In a waste rubbishy spot at Dawlish, Devonshire. Sept. 1781, and since in several other places in the same county. Mr. MARTIN.]—(On Ben Lomond, Scotland. E.)

A. but if housed during the winter P. RETZ. i. 52. May—Oct.

AGROSTEM'MA *Calyx* 1 leaf, like leather: petals 5, with claws; border blunt, undivided; caps. 1-celled.

A. Plant hairy; calyx as long as (or longer than) the blossom; petals entire, not crowned.

E. bot. 741—*Curt.* 209—*Kniph.* 5—*Fl. dan* 576—*Dod.* 173—*Lob. obs.* 23. 2—*Ger. em.* 1087—*Park.* 632. 9—*H. ox. v.* 21. 31—*Pet.* 57. 12—*Fuchs.* 127—*J. B.* iii. 341. 2—*Trag.* 127—*Matth.* 798—*Ger.* 926—*Walc.*—*Lonic.* i. 83. 3.

Calyx 10-ribbed, longer than the blossom. *Flowers* purplish red, sometimes white.

Corn Cockle. Cornfields, not unfrequent. A. June—July.

LYCH'NIS. *Calyx* 1 leaf, oblong, even: petals 5, with claws, limbs often cloven: caps. 1 to 5-celled.

L. Stamens and pistils in distinct plants; capsules 1-celled. dioica.

Var. 1. *diurna*. Blossoms red: capsules roundish.

Curt.—*E. bot.* 1579—*Kniph.* 116—*Ludw.* 170—*Walc.*—*Chus.* i. 294. 1—*Dod.* 171. 1—*Lob. obs.* 181. 2—*Ger. em.* 469. 1—*Park.* 631. 1 and 2—*H. ox. v.* 21. 23—*Pet.* 57. 6.

Upper stem-leaves generally spear-shaped, lower ones egg-shaped, tapering at each end; but I have a specimen gathered on the rocks at Blaze Castle, near Bristol, in which the upper leaves are egg-shaped, and the lower ones circular. This is a female plant.

Red-flowered Wild Campion. *Campion Cuckow Flower.* Hedges, ditches, and moist woods. The rocks on the Isle of

Ailsa are covered with it, where there is none of the white. **LIGHTFOOT.** [The red flowered very common, the white very rare, about Manchester; the white common about Chester, but none of the red. **Mr. CALEY.** This fact tends to corroborate the opinion of **Dr. Sibthorpe**, mentioned below.]

P. May—Sept.

Var 2. *vespertina*. Blossom white; capsules conical.

E. bot. 1580—*Walc.—Matth.* 997—*J. B.* iii. 342—*Pet.* 57. 5—*Fl. dan.* 792—*H. ox.* v. 21. 21.

Both these plants correspond in structure, they both have male and female flowers on separate roots, and both sometimes are found with hermaphrodite flowers. Ray observes that in the red-flowered the stems are weaker and more flaccid than in the other, and from their not growing intermixed, **Mr. Woodward** and some other judicious botanists believe them to be distinct species. In the white-flowered sort the petals of the male plant have the limbs divided down to the claws, but in the female they are only cloven half way down. The mouth of the blossom is partly closed by a crown formed of four little scales at the top of the claw of each petal.

Since the above was written, I perceive that **Dr. Sibthorpe** in *Fl. Oxon.* enumerates the red and the white flowered dioicous *Lychnis* as distinct species; the former he calls *L. diurna*, remarking that the capsules are roundish, and that its scentless flowers stand open through the day. The latter he says has conical capsules, that its flowers are odoriferous, and only open towards evening. This he calls *L. vespertina*. These trivial names, and his distinction founded on the shape of the capsules, are therefore added to their respective varieties, though I am far from thinking them distinct species. (**Mr. Woodward** recently observes that if the white and red be distinct, the hermaphrodite variety with flesh coloured flowers is probably a hybrid between them. It is rare, but I have several times seen it near Bungay, and it may be distinguished at first sight by its pale flowers. E)

More lately still **Mr. Robson** informs me that, from having cultivated both, he is satisfied they are distinct species, though they are both liable to change the colour of their blossoms to flesh colour. (**Dr. Smith** still retains an opinion opposite to that of the above-named botanists, for reasons stated in *English Botany*, vol. 22. p. 1580. E.)

Wild White Campion, or *Cuckow Flower*. Pastures, hedges, and fallow fields, sometimes so plentifully as to make them appear at a distance quite white, where the red is never found. **Str.**—(**Mr. Dillwyn** finds this plant with very full double white blossoms, on the sides of the North end of the Old Haven at Sandwich. *Bot. Guide.* E.)

P. June—Aug.

L. Petals (3 or) 4-cleft; fruit roundish; of 1 cell.

Flos-cu'culi,

E. bot. 573—*Curt.—Kniph.* 11—*Walc.—Fl. dan.* 590—*Trag.* 403—*Lonic.* i. 171. 1—*Ger.* 480. 1. and 2—*Clus.* i. 292. 2—*Dod.* 177—*Ger. em.* 600. 1—*H. ox.* v. 20. 8—*Pet.* 56. 6.

Petals, the two middle segments the longest. *Claws* with two small spear-shaped teeth at the top. *Blossom* pink, or purplish red; sometimes white.

Meadow Pinks. *Wild Williams.* *Meadow Cuckow flower.*
Ragged Robin. Moist meadows and pastures, P. June.

Var. 2. Double flowered.

Mill. 169. 2—*Clus.* i. 293. 1—*Ger. em.* 600. 3—*Park. par.* 255. 5.

Pleasant in Sight. Meadow near Bungay, Suffolk. Mr. WOODWARD.

L. Petals nearly entire.

Visca'ria.

E. bot. 788—*Fl. dan.* 1032—*Kniph.* 12—*Clus.* i. 289. 2—*Ger. em.* 601. 3—*Park.* 637—*H. ox.* v. 20. 6—*Pet.* 57. 3—*J. B.* iii. 348. 2.

Stems, the upper part of the superior joints anointed with a reddish black clammy substance like tar, in which Ants, and other wingless insects are inviscated, in attempting to creep up to the flowers. *Capsules* with five cells. LINN. *Stem* upright, simple. *Blossom* red.

Var. 2. White-flowered.

Red German Catchfly. *Catchfly Cuckow Flower.* Mountainous pastures. Sides of Craig Breiddin Hill, Montgomeryshire. [Rocks in the King's Park, Edinburgh, on the South side; and abundantly at Craig Hall, Perthshire, on rocks. Mr. BROWN.—Near Croydon, Surrey, Mr. CROWE.]

P. May—June.

(L. Smooth; petals 2-cleft; flowers forming a corymbus: alpi'na. leaves strap-spear-shaped.

Fl. dan. 65.

Resembles *L. viscaria*, but is smaller and not viscid. We learn from Lin. Trans. v. 10. p. 342, that this plant, a native of Swiss and Lapland mountains, has been found also to be indigenous to Britain, having been discovered on rocks near the summit of Clova, in Angus-shire, by Mr. DON. E.)

CERAS'TIUM. *Calyx* 5-leaved: *petals* cloven:
caps. 1-celled, opening at the top.

(1) *Capsules oblong.*

vulga'tum. *C.* Upright, woolly and clammy.

E. bot 789—*Curt.-Vaill.* 30. 3—*Pet.* 58. 5.

Hairs on the calyx and on the upper part of the stem ending in oval or globular glands, containing a viscid liquor, which gives a clamminess to the touch. In other respects it approaches very near the *C. viscosum*, but is more upright and less spreading. *Petals* white, shorter than the calyx.—*Dr. SMITH*, who has rescued this and the following species from their former confusion, observes, that “the light green hue, yellowish in decay, of the *C. vulgatum*, its broad ovate leaves and smaller flowers, distinguish it from the *C. viscosum*.”

Broad-leaved Mouse-ear. C. viscosum. *Bot. arr. ed* 3.—
Meadows, pastures, walls, dry banks, and ant-hills.

A. April—Oct.

visco'sum. *C.* Leaves egg-shaped; petals as long as the calyx; stems spreading.

E. bot. 790—*Curt.* 130—*Vaill.* 30. 1—*Walc.* 5—*Pet.* 58. 6.
J. B. iii. 359. 1.

This species is also viscid, “though less so at an advanced age, and in cold weather.” *E. bot.*—The most obvious distinction seems to be the trailing, or upright stems. Whole plant rough with hairs. *Calyx* leaves membranaceous at the edge. *Petals* white, in small poor plants in very dry situations as long as the calyx, in larger and more luxuriant specimens shorter; rarely to be seen in an expanded state.

Narrow-leaved Mouse-ear. C. vulgatum. *Bot. Arr. ed.* 3.
Meadows, pastures, walls, sides of roads and amongst rubbish. When growing in bogs the leaves are sometimes as convex as an egg cut through lengthwise. *Mr. AIKIN.*

P. May—Aug.

alpi'num. *C.* Leaves elliptical, naked, or clothed with long hairs; panicle forked, of few flowers, furnished with bractæ; capsule oblong, curved. *E. bot.*

E. bot. 472—*Fl. dan.* 6—*Lightf.* 10 at p. 242—*Ray* 15. 2. at p. 348.

Whole *plant*, except the petals and capsules, covered with long, soft, shining hairs. *Lower leaves* oval; *upper* oval-spear-shaped, opposite. *Branches*, terminated by one or two flowers. *Flowers* large on separate fruit-stalks, each furnished with two opposite spear-shaped floral-leaves. *Capsule* when ripe lengthened out into a straight horn. Mr. WOODWARD.

We have two varieties of this, one with the leaves quite smooth and almost glossy; the other with woolly leaves; but they are clearly one species. What can be the cause of the smoothness of the one, growing, as they do, intermixed?—*Flowers* generally one, and sometimes two, but in the Dutch gardens, several on a stem. LINN. *fl. iapp.* Some *plants* green, and others hoary. Doubted whether not two distinct species. RAY. *Hairs* on the fruit-stalks transparent, jointed, the knots somewhat opaque. Mr. GRIFFITH.—From two to four inches high. *Flowers* white.

Alpine Mouse-ear. Mountains and sides of rills, as on Snowdon, on the North side of Wyddfa and Clogwyn dû'r Arddû near Llanberis. [Top of Clogwyn y Garnedd, very near to plants of *C. latifolium*. Mr. GRIFFITH.] P. July—Aug.

C. Leaves elliptical, clothed with short spreading bristles; *latifolium*. flower-stalks terminal, simple, mostly solitary; capsule oval. *E. bot.*

E. bot. 473—*Jacq. coll.* i. 20.

The *stems* form tufts, but are shorter and more thickly set with leaves than in the *C. alpinum*; the leaves are broader and more obtuse, clothed (*constantly*, as far as we have observed) with numerous short rigid spreading bristly hairs, various in position and direction, making a harsh kind of covering, quite different from the silky hairs of *C. alpinum*. They are also in general more thickly jointed. The *flower-stalks* are terminal, mostly solitary, simple, often as long as the whole stem, clothed with glandular spreading hairs, and frequently destitute of bractæ. The *flowers* differ but little from that species. It appears that the *stem* is at length protruded beyond the insertion of the flower-stalk, and may occasionally bear an autumnal flower; when the first has ripened its seed. The *capsule* is oval, and is not curved, shorter than that of *C. alpinum*. *E. bot.*—Mr. LIGHTFOOT refers his Scottish specimens to the *C. latifolium*, but his figure represents the *C. alpinum*.

Broad-leaved rough Chickweed. [Specimens from Mr. GRIFFITH, gathered on Clogwyn y Garnedd, agree with a specimen which I have from Switzerland. Mr. Griffith observes that it grows in no other place about Snowdon.] (On the Highland mountains. Mr. MACKAY. *E.*) P. June.

arven'se.

C. Leaves strap-spear-shaped, bluntish, fringed at the base; blossoms larger than the calyx.

E. bot. 93—*Kniph.* 8—*Vaill.* 30. 4, and 5—*Ger.* 477. 11—*Fl. dan.* 626—*J. B.* iii. 360. 1—*Ger. em* 595. 15—*Park.* 1339. 7.

Leaves pointed, covered with a short thick down. *VAILL.*
Petals twice as long as the calyx. *HALL.*

Corn Mouse-ear. *Caryophyllus holosteus arvensis.* *GER. em.* 595. Corn fields, gravelly meadows and pastures, at the foot of walls, dry banks and heaths, in Cambridgeshire. Dupper's Hill, near Croydon. [About Bury, frequent, amongst corn. *Mr. WOODWARD.*—Near Norwich. *Mr. CROWE.*—By hedges, but rarely amongst corn. *Mr. ROBSON.*] *P. May*—Sept.

semide-
can'drum.

C. Flowers with 5 stamens; petals notched at the end.

Dicks. h. s.—*Curt.* 122—*E. bot.* 1630—*Ray* 15. 1. at p. 348—*Vaill.* 30. 2.

Stems very short. *Leaves* egg-shaped, opposite, somewhat channeled, blunt, sprinkled with very short hairs. *Fruit-stalks* very short, each with one flower. *Calyx* with glutinous hairs, membranaceous at the point and hedges. *Petals* strap-shaped, white, sharply notched at the end. *Stamens* 5, with white anthers, the five inner ones without anthers. Five nectariferous dots between the fruitful stamens and the petals. *LINN.* *Barren filaments* not found with us. *Stamens* fertile ones sometimes more than five. *Flowers* white.

Least Mouse-ear. Walls, pastures and heaths.

A. April—May.

pu'milum.

C. Flowers with 5 stamens; petals cloven, as long as the calyx; capsule twice as long.

Curt. Fl. Lond.

Discovered by *Mr. DICKSON.* Nearly allied to the *C. semidecandrum*, but distinguished from that by the flowers being more conspicuous, the petals being near twice the size, fully as long as the calyx, and cloven to one third of their length. The capsules also are much longer, being for the most part twice the length of the calyx. *CURTIS*

C. semidecandrum. *β.* *Fl. Brit.* On dry banks near Croydon. *A. Feb.*—March.

(2) Capsules roundish.

C. umbellatum, see *Holosteum umbellatum*.

C. Leaves heart-shaped, sitting; flowers solitary; capsules aquaticum, pendent.

E. bot. 538—*Curt.*—*Dod.* 29. 1—*Ger. em.* 611. 1—*Park.* 759. 2—*Ger.* 488. 1.

In habit much resembling the larger plants of the *Stellaria media*, but the petals are much larger than the calyx, and the hairiness on the stem is general and not limited, as in that plant, to a line extending along it. Leaves often heart-spear-shaped, and sometimes curled at the edge. Whole plant set thick with fine short hairs, terminated by globular heads, containing a clammy liquor. Flowers white.

Marsh Mouse-ear. Water Chick-weed. Watery places, banks of rivers mostly amongst bushes. P. July.

SPERGULA. *Cal.* 5 leaves: *petals* 5, entire: *caps.* egg-shaped, of 1 cell and 5 valves.

S. Leaves in whirls: flowers with more than 5 stamens: *arvensis*. stems thick at the joints.

Curt.—*E. bot.* 1535—*Fl. dan.* 1033—*Dod.* 537—*Lob. obs.* 467. 1—*Ger. em.* 1125—*Park.* 562—*J. B. iii.* 722. 1—*Pet.* 59. 6.

Leaves 6 in a whirl, 3 on each side, cylindrical, thread-like, woolly, clammy. Fruit-stalks branching. LINN. Stamens in the autumn frequently fewer than 10. Seeds rough with rising dots, when ripe black, with a white border. Flowers white.

Corn Spurrey. Rough-seeded Corn Spurrey. Corn fields and sandy places, especially where water has lain; gravel walks. A. July—Sept.*

(Var. 1. *Smooth-seeded Corn Spurrey. S. pentandra.* *E. bot.* Having stamens only 5, with seeds lenticular and smooth, with a membranous border.

E. bot. 1563.

Supposed by Mr. Shepherd and Dr. Smith to constitute a distinct species, but as the plant usually grows intermixed with *S. arvensis*, and is only to be recognized by a minute examination of the flowers and seeds, we cannot assign it so important a distinction. *E.*)

* Poultry are fond of the seeds; and the inhabitants of Finland and Norway make bread of them when their crops of corn fail. Experience shews it to be very nutritious to the cattle that eat it. Horses, sheep, goats, and swine eat it. Cows refuse it.

subulata. *S.* Leaves in whirls, (or rather opposite, *E.*) hairy at the edge, rather pointing one way: (flower-stalks very long, *E.*) thread-shaped: flowers solitary.

Curt. 139-*E. bot.* 1082.

Whole plant set with short hairs, terminating in minute globules. *Stamens* from 5 to 10. *Petals* white, roundish, as long as the calyx.

This has been considered by some of our most accurate botanists as the *S. laricina* or the *S. saginoides* of Linnæus, but Mr. Afzelius informs me it is neither, but a kind of intermediate plant between the two. The *S. saginoides* is more branched, has swollen knots at the joints of the stems, with a remarkable contraction just under the knots; it is also a larger plant, is destitute of hairiness, and its flowers always contain 10 stamens. The *S. laricina* has the leaves in opposite pairs, with bundles of young leaves or branches in the axillæ. The fruit-stalks are smooth and furnished with floral-leaves. The calyx leaflets are 3-fibred, the stamens are always 10, and the flowers much larger than those of the *S. subulata*.

Awl-shaped Spurrey. S. saginoides. CURT. S. laricina. LIGHTF. HUDS. Dry pastures in a gravelly soil. Uxbridge Moor. Isle of Bute; Cobham and Esher, Surrey; Devonshire and Cornwall? Putney Heath, Coomb Wood, Surrey; Bagshot Heath, Potnell Warren, near the great bog at Virginia Water. [Sandy ground by road sides near Forfar, and between Dundee and St. Andrews. Mr. BROWN.] P. June—Aug.

nodosæ. *S.* Leaves opposite, awl-shaped, smooth: stems simple.

Curt. 261-*E. bot.* 694-*Kniph.* 11-*Fl. dan.* 96-*J. B.* iii. 724-*Ger.* 567. 6-*Park.* 427. 3-*Pluk.* 7. 4-*Pet.* 59. 5.

Bunches of very minute leaves in the bosom of the opposite leaves, which are the rudiments of small branches. RAY. Stems trailing, slightly hairy, rarely branched. Flowers terminating, solitary, white.

Knotted Spurrey. Marshy places, wet pastures and sides of rivers, lakes, and marshes. [Bogs about Settle, and in the North. CURTIS.—Boggy ground in Sutton Park, Warwickshire. Dr. STOKES.—Side of the lake at Llanberris, plentiful. Mr. AIKIN.]—Mr. NORRIS has discovered this plant, of a diminutive size and comparatively glaucous hue, in a very unusual situation. He says it grows near Bromham, Wiltshire, upon the southern and sun-burnt brow of a chalky eminence called Morgan's-Hill, within a furlong south of the ancient Wansdike; living in a spot most parched and dry, among loose flints, &c. and associating with the *Sedum acre*, *Poa rigida*, *Phyteuma orbicularis*, and *Asperula cynanchica*. P. July—Sept.

(S. Leaves awl-shaped, opposite, pointless, naked; fruit- *saginoi'des*, stalks solitary, very long, smooth.

E. bot. 2105.

Root fibrous. *Whole plant* smooth. *Stems* lying down, a little branched, an inch and half long, leafy, cylindrical, knee-jointed, upright towards the extremity. *Leaves* united at the base, awl-shaped, sharp-pointed. *Fruit-stalks* mostly terminating, solitary, upright, one-flowered, cylindrical, naked, very smooth, nearly as long as the stems. *Blossoms* bent downwards, white. *Leaflets* of the calyx egg-shaped, blunt, smooth, almost destitute of fibres, gibbous at the base. *Petals* roundish, blunt, very entire, shorter than the calyx. *Stamens* 10, scarcely longer than the petals. *Capsules* egg-shaped, twice the length of the calyx, 5-valved. *Seeds* kidney-shaped, brown, not bordered. *Fl. Brit.*

Swartz is said to have found this plant with only 5 stamens.

Smooth Awl-shaped Spurrey. S. saginoides of LINN. On the highest mountains of Scotland. On Ben Lawers, where it was discovered by Mr. J. MACKAY, in 1794, *Fl. Brit.* but previously by Mr. G. DON, on Mal-ghyrdy. *E. bot. E.)*

CLASS XI.

DODECANDRIA.

MONOGYNIA.

CERATOPHYLLUM. *Flowers* M. and F. on the same plant: *Bloss.* none: *Cal.* with many divisions.

F. Style none: *Seed* 1.

A'SARUM. *Bloss.* none: *Cal.* 3-cleft, superior: *Caps.* 6-celled.

LYTHRUM. *Bloss.* 6 petals: *Cal.* 12-toothed, beneath: *Caps.* 1 or 2 celled.

DIGYNIA.

CARPINUS. *Flowers* M. and F. on the same plant: *Bloss.* none: *Cal.* 1 scale, fringed.

DODECANDRIA. MONOGYNIA. Asarum.

M. *Stam.* 10 to 16.

F. *Germens* 2, with 2 styles to each : *Nut* egg-shaped.

AGRIMONIA. *Bloss.* 5 petals : *Cal.* 5-cleft : *Seeds* 1 or 2.

[*Mercurialis. Crataegus.*]

TRIGYNIA.

FA'GUS. *Flowers* M. and F. on the same plant : *Bloss.* none.

M. *Cal.* 5-cleft, bell-shaped.

F. *Cal.* 4-toothed, changing into a capsule, prickly, 4-valved, 2-seeded.

RESE'DA. *Bloss.* petals many-cleft : *Cal.* divided : *Caps.* 1-celled, gaping open.

EUPHOR'BIA. *Bloss.* petals fixed by the centre : *Cal.* bellying : *Caps.* 3 united dry berries.

TETRAGYNIA.

[*Tormentilla erecta.*]

HEXAGYNIA.

[*Sedum Dasyphyllum.*]

DODECAGYNIA.

SEMPERVIVUM. *Bloss.* 12 petals : *Cal.* with 12 divisions : *Caps.* 12.

[*Thalictrum alpinum.*]

MONOGYNIA.

A'SARUM. *Calyx* 3 or 4-cleft, sitting on the germens : *bloss.* none : *caps.* like leather, crowned, of 6 cells ; but no valves.

- A. Leaves kidney-shaped, blunt, in pairs, (dark green, Europæum. shining, very entire, on long hairy foot-stalks. E.)

E. bot. 1083—*Woodv.* 86—*Kniph.* 9—*Lud.* 182—*Sheldr.* 19—*Fl. dan.* 633—*Mill. ill.*—*Blackw.* 383.—*Trag.* 64—*Dod.* 358—*Lob. obs.* 328. 2—*Ger. em.* 836. 1—*H. or.* xiii. 7. row 3. 1—*Park.* 266, 1—*Matth.* 36—*Fuchs.* 10—*J. B.* iii. 548—*Mill.* 53. 1. a.

(*Stamens* concealed in the bottom of the calyx. E.) *Flowers* purplish, solitary, terminal, drooping.

Asarabacca. Woods and shady places, Lancashire, (near Preston, &c. Near Kirkby Lonsdale, Westmoreland. Dr. BATTY. *Fl. Brit.* By the road side between Henley and Maidenhead. Rev. CHARLES ABBOT. *E. bot.* Ramskin, Martindale; and Keswick. HUTCHINSON. E.) P. May.*

CERATOPHYLLUM. Male and Fem. flowers on the same plant: *cal.* with many divisions: *bloss.* none.

Male. *Stamens* twice as many as the segments of the calyx.

Fem. *Style* none: *nut* coated, without valves.

- C. Leaves forked, toothed; lower ones strap-shaped; upper ones much crowded, tubular and inflated; capsule armed with three beaks or spines.

E. bot. 947—*Fl. dan.* 510—*Loes.* 12. at p. 67—*Vaill. hist. de l'acad. vol. for 1719. p. 21.*

Root striking deep in the mud. *Stem* much branched, the lower part generally covered with mud. *Leaves* in whirls, about eight in a whirl, the lower whirls about half an inch distant, but closer upwards, and extremely crowded towards the end; twice-forked, bristle-shaped, harsh and somewhat brittle, semi-transparent, green, spotted with short purple lines, and the extreme forks toothed on the outside only; those on the part of the stem covered with or lying on the mud, short,

* The root powdered and taken to the amount of 30 or 40 grs. excites vomiting. If it be coarsely powdered it generally purges. The powder of the leaves is the basis of most of the Cephalic Snuffs, which occasion a considerable discharge of mucus from the nostrils without much sneezing. An infusion of one or two drachms of the leaves, in wine, vomits. Cows eat it.

forked, much thicker than those above, and appearing as if broken or bitten. *Flowers* few, in the bosom of the leaves. *Seed-vessel* with one long thorn at the summit; and two shorter on opposite sides near the base. Mr. WOODWARD. (*Segments of the calyx* toothed at their summits, whereas in *C. submersum* they are entire. E. bot. E.)

Common Hornwort. Floating Hornweed. Ditches and slow streams. P. Aug—Sept.

submersum. *C.* Leaves forked, toothed; lower ones tubular and somewhat inflated; upper ones hair-like, near together; capsules with a short blunt point.

E. bot. 679—*Vaill. hist. de l'acad*, 2. 2, vol. for 1719. p. 16.

So nearly allied to *C. demersum* that it may prove to be only a variety. LINN. Specimens from Paris had the leaves twin-forked. I should not be inclined to consider it as a distinct species. HALL.

This species is certainly to be distinguished from the more common *C. demersum* by its fruit being unarmed, not furnished with three long divaricating thorns. E. bot.

Unarmed Hornweed. Ditches on the side of the road from Chichester to the Isle of Selsey. R. Syn. [Near Yarmouth, Mr. DAWSON TURNER. *E. bot.*] (Ditches at Gorleston, Suffolk. Mr. DAWSON TURNER. Newburgh Ponds, Yorkshire. Rev. Archdeacon PIERSON. *Bot. Guide.* E.) Sept.

LYTHRUM. *Cal.* often with 12 or 16 teeth:
petals 5 or 6, fixed to the calyx: *capsule*
1 or 2-celled, many-seeded.

Salicaria. L. Leaves opposite or alternate, heart-spear-shaped; flowers in spike, 10 or 12 stamens in each.

Curt. 186—*E. bot.* 1061—*Kniph.* 5—*Fl. dan.* 671—*Matth.* 950—*Clus.* ii. 51. 1—*Dod.* 86. 1—*Ger. em.* 476. 5—*Park.* 546. 1—*Pet.* 62. 6—*Blackw.* 520—*Ger.* 386. 2.

Stem upright, square. *Leaves* spear-shaped, sitting, all opposite, or all alternate, or the lower ones opposite and the upper ones alternate. *Flowers* in tufts in the bosom of the leaves, sometimes close together; forming a long leafy spike. *Calyx* hairy, six of the teeth short and blunt, the other six awl-shaped. *Petals* fixed within the longer teeth of the calyx, red purple. Sometimes a single anther grows to one of the petals, and in this case, besides the twelve perfect stamens, a single filament is found without an anther.

Purple-spiked Willowherb, or Loosestrife, or Grasspoly.

Var. 1. Leaves three in a whirl: stem 6-cornered. RAY.

Marshes and banks of rivers.

P. July—Aug.*

L. Leaves alternate; flowers with 6 stamens.

Hyssopifo-
lium.

Hall. jen. 6. 2, at. p. 295—Jacq. austr. 133—E. bot. 292—

C. B. pr. 108—J. B. iii. 792. 3—Ger. em. 581. 2—Park.

220. 2—Hall. jen. 6. 3.

Stems trailing, rather stiff, branching, rod-like. *Leaves* alternate, sitting, strap-spear-shaped, quite entire. *Flowers* solitary, in the bosom of the leaves. *Calyx* tubular, with five or six open teeth. *Petals* six, purple, white at the base. *Stamens* shorter than the calyx. LINN. *Stem* simple, or branched near the root, not so upwards. *Leaves* strap-shaped, scattered. *Flowers* nearly sitting. *Blossoms* blue. Mr. WOODWARD.

Hyssop-leaved Willow-herb. Grasspoly. Small Hedge-hyssop. Watery places, and where water has stood during the winter. [Near the Wheat Sheaf, five miles from Huntingdon, on the north road. Mr. WOODWARD.] (In a wheat field just beyond Barton Mere, near the direction post, on the road leading to Pakenham and Barrow Bottom. Sir T. G. CULUM. In watery Pits on the left hand of the First Turnpike Gate on the Banbury road from Oxford. SIETHORPE. In places where water sometimes stagnates a little below Wilford Boat, Nottinghamshire. DEERING. Between Staines and Lalam, in a marshy field by the road. BLACKSTONE. Ditches near the Abbey Pond at Faversham. JACOB. On the road side near Gelli towards Carmarthen. EVANS. E.) A. July—Aug.

DIGYNIA.

CARPINUS. Male and female flowers on the same plant: *bloss.* none: *cal.* 1 leaf, a fringed scale.

Male. *Stamens* 18 or 20.

Fem. *Germens* 2, with 2 styles on each: *nut* egg-shaped.

* Threlkeld, a physician who flourished somewhat more than a century ago, notices the good effects of this plant in cases of dysentery, and since his time, the celebrated De Haen has maintained the credit of the remedy both in the above disorder, and in obstinate diarrhoeas. PULTENEY. E.)

Bet'ulus. C. Scales of the cones flat. Linn. (Bracteas of the fruit oblong, serrated, flat, with two lateral lobes. E. bot. E.)

E. bot. 2032—*Matth.* 145—*Ger.* 1296—*Park.* 1406—*J. B.* i. b. 146—*Hunt. Evel.* p. 143; i. p. 138. *ed.* II.—*Clus.* i. 55. 2—*Dod.* 841—*Lob. obs.* 607. 2, and *ic.* ii. 190. 1—*Ger. em.* 1479—*Trag.* 1109—*Lonic.* i. 33. 2.

Stamens eight to sixteen. LINN. *Filament* dividing at the top, each division supporting a distinct anther. *Bark* smooth, white. *Leaves* oval, pointed, sharply serrated.

Horn-beam Tree. In woods and hedges. T. April—May.*

AGRIMONIA. *Calyx* 5-toothed, surrounded by another: *petals* 5: *seeds* 2, in a capsule at the bottom of the calyx, which becomes indurated.

Eupato'ria. A. Stem-leaves winged; the odd leaflet on a leaf-stalk; fruit hispid.

Curt. 317—*E. bot.* 1335—*Kniph.* 5—*Woodv.* 258—*Ludw.* 29—*Mill. ill.—Fl. dan.* 588—*Ger.* 575—*Blackw.* 283—*Fuchs.* 244—*J. B.* ii. p. k. 398—*Dod.* 28. 1—*Lob. obs.* 394. 2—*Ger. em.* 712—*Park.* 594. 1—*Matth.* 1014—*Trag.* 514—*Lonic.* i. 218. 1.

Stem cylindrical, roughish, hairy. *Leaves* hairy, covered with rising dots, and segments ending in small reddish glands, interruptedly winged; the smallest pair of little leaves entire, the others deeply serrated, oblong-egg-shaped. *Fruit-stalks* surrounded at the top with a sort of outer calyx, which is cloven into five spear-shaped irregular segments, hairy at the edges and the outside. Within this the fruit-stalk is covered with white upright bristles, above which again is a circle of numerous green awns hooked at the end, and within these, the proper calyx of five leaves, spear-shaped, concave, glandular

* It loves a poor stiff soil, on the sides of hills; is easily transplanted, and bears lopping. In 1764, in Lord Petre's park, at Writtle, in Essex, stood a Horn-beam tree, measuring full 12 feet in girth, at 5 feet above the ground. Bath Soc. i. Mr. MARSHAM.—Cattle eat the leaves, but pasture will not flourish in its shade.—The wood burns like a candle; it is very white, very tough, harder than hawthorn, and capable of supporting a great weight. It is useful in turning, and for many implements of husbandry. It makes cog for mill wheels, even superior to Yew.—The inner bark is much used in Scandinavia to dye yellow.—The *Phalœna brumata* and *rostralis* feed upon it.

without, within marked with three deeper green lines, terminating with a reddish point. *Petals* egg-shaped, concave, very slightly notched at the end, twice as long as the cup. *Stamens* five to twelve. *Germen* crowned with the calyx, and a yellowish fleshy receptacle. *Styles* thread-shaped. *Summits*, two thin lips at the end of each style. *Capsule* egg-shaped, hairy, ribbed. *Seeds* nearly egg shaped, flattened on one side. *Flowers* in long, upright, terminating bunches; fine yellow.

Common Agrimony. Borders of cornfields, shady places, and hedges. P. June—July.*

TRIGYNIA.

FA'GUS. Male and female flowers on the same plant: *bloss.* none.

Male. *Calyx* 5-cleft: bell-shaped.

Fem. *Calyx* with 4 teeth, changing into a prickly 4-valved, 2-seeded capsule.

F. Leaves spear-shaped, with tapering serratures, naked Casta'nea. underneath.

E. bot. 886—*Kniph.* 5—*Hunt. Evel.* p. 159. 1. p. 153. *ed.* II.—*Mill.* 84—*Tourn.* 352—*Nat. disp.* ii. 30. *at p.* 290—*Nat. delin.* ii. 19. 3. *at p.* 312—*Matth.* 211—*Dod.* 814. 1—*Lob. ic.* ii. 160. 2, and *obs.* 588. 1—*Ger. em.* 1442. 1—*Park.* 1400. 1—*J. B. i. b.* 121—*Gars.* 204—*Ger.* 1253. 1—*Blackw.* 330—*Fuchs.* 377—*Trag.* 1100—*Lonic.* i. 31. 1.

Catkins cylindrical. LINN. *Leaves* ending in a very long taper point; serratures ending in a kind of thorn. Mr. Woodward.

Chesnut Tree. Woods and hedges, in Kent, common. Burchleigh Park, in great abundance. Mr. Woodward.† T. May.†

* The Canadians are said to use an infusion of the root in burning fevers, and with great success. An infusion of six ounces of the crown of the root, in a quart of boiling water, sweetened with honey, and half a pint of it, drank 3 times a day, Dr. Hill says, is an effectual cure for the jaundice. He advises to begin with a vomit, afterwards to keep the bowels soluble, and to continue the medicine as long as any symptoms of the disease remain.

Sheep and goats eat it. Cows, horses, and swine refuse it. LINN.—The flowers, fresh gathered, smell like apricots.

† Nothing will thrive under its shade.—The wood is applicable to the same uses as that of Oak. If the bark be not taken off, it makes poles for espaliers, dead fences and hop yards, and pipes to convey water under ground, which will last longer than those of Elm or Oak.—Some of the oldest

DODECANDRIA TRIGYNIA. Fagus.

There is a cultivated variety with larger and more glossy leaves, and with six to nine pistils to each seed-vessel. This is said to bear fruit more early, and of a larger size. Mr. STACKHOUSE.

sylva'tica. F. Leaves egg-shaped; indistinctly serrated.

E. bot. 1846—*Hunt. Evel.* p. 136. i. p. 131. *ed. II.—Matth.* 205—*Ger.* 1255—*Dod.* 832—*J. B.* i. b. 118—*Lonic.* i. 33. 1—*Spect. de la nat.* ii. 29. 1. at p. 290—*Nat. delin.* ii. 19. 1. at p. 312.

Catkins globular. LINN. *Bark* smooth, white. (*Leaves* shining, waved, scarcely serrated, finely fringed. *Calyx* of the fruit ovate, silky, muricated with simple pliant prickles. *E. bot. E.*)

Beech Tree. Woods and hedges in a calcareous soil.

T. March—April.*

buildings in London are said to be constructed with this wood.—At Tortsworth, in Gloucestershire, is a tree 52 feet round. It is proved to have stood there ever since the year 1150, and was then so remarkable as to be called the Great Chesnut of Tortsworth. It fixes the boundary of the manor, and is probably near 1000 years old. *Gent. Mag.* 1766, p. 321, where there is a drawing of it. Mr. Collinson, the author of this account, makes no doubt of the Chesnut being a native of England, and assigns the great profit that arises from them when cut for hop-poles, as the reason why it is so rare to see large trees in the woods.

Mr. Marsham measured this tree in the year 1759, at the height of six feet from the ground, where its girth was 46 feet 6. inches. He calculates that it cannot be less, probably much more, than 1100 years old, and that it was 540 years old when John came to the throne, and would then measure 11 yards in circumference. *Bath Soc.* 1.

The nuts are used for whitening linen cloth, and for making starch. They are roasted on small stoves in the streets by the fruit-women, and in winter form a very agreeable addition to our desserts. They constitute a great proportion of the food of the common people in the south of Europe; and hogs feeding on them as they run wild in the forests, are reckoned particularly excellent. (Mount Etna is famous for the production of enormous Chesnut trees; probably the largest in the known world, is that reported by Mr. Houel to be 160 feet in circumference, and capable of sheltering one hundred horses, it is hollow within and contains a house and oven used for drying chesnuts, almonds, &c. E.)

* The tree is large and beautiful, but no verdure will flourish under its shade. It loves a fertile soil. Whilst young it is apt to suffer from exposure. It is difficult to transplant. It retains its old leaves through the winter. It bears lopping well, and may be trained to form very lofty hedges.—The wood is brittle; soon decays in the air, but endures long under water. It is formed into tool handles, planes, mallets, chairs and bedsteads. Split into thin layers it is used to make scabbards for swords. It is excellent fuel, and when burnt affords a large quantity of Pot-ash.—The leaves, gathered in autumn, before they are much injured by the frosts, make infinitely better mattresses than straw or chaff, and last for 7 or 8 years. The nuts, or masts as they are called, when eaten, occasion giddiness and head-ache; but when well dried and powdered make

RESE'DA. *Calyx* 1 leaf, divided: *petals* jagged: *capsule* 1-celled, many-seeded, opening at the top.

R. Leaves spear-shaped, entire, with a tooth on each side Lute'ola, the base; calyx 4-cleft.

E. bot. 320—*Kniph.* 5—*Fl. dan.* 864—*Sheldr.* 93—*Trag.* 362—*Lonic.* i. 155. 4—*Ger.* 398. 1—*Matth.* 1307—*Dod.* 80—*Lob. obs.* 190. 3—*Ger. em.* 494—*Park.* 603, 1—*Pet.* 38. 12—*Blackw.* 283—*J. B.* iii. 465. 2.

Stems cylindrical, hollow, furrowed. *Leaves* strap-spear-shaped, with a very minute reddish tooth on each side of the base. *Floral-leaves* one at the base of each flower. *Calyx* segments 4, spear-shaped, the two upper wide asunder. *Petals* 3, the upper hand-shaped, with four divisions; the two lateral ones oblong, sometimes cloven. *Nectary* broad, somewhat hollowed on the outer side at the base, which is covered by a thin concave lid, formed by an expansion of the claw of the upper petal. *Stamens* 20 to 30, or more. *Germen* pyramidal, 3-sided, corners blunt. *Styles* none. *Summits* 3. *Capsule* with three valves, rolled inwards so as to enfold the seeds. *Flowers* yellow.

Wild Woad. *Dyer's-weed.* Madows, pastures, walls, and barren uncultivated spots. [Coal-pit banks in Staffordshire and Shropshire, and about the ruins of Dudley Castle. Mr. SWAYNE observes that it is one of the first plants that grow on the rubbish thrown out of coal-pits. It is very common in Gloucestershire by the sides of roads, and also about Manchester, probably as Mr. CALEY thinks, from scattered seeds from the

wholesome bread. They are sometimes roasted and substituted for coffee. They fatten swine and are greedily devoured by mice, squirrels, and birds. The poor people in Silesia use the expressed oil instead of butter. Sheep and goats eat the leaves.

Phalena Populi, *Coryli*, *pudibunda*; *Curculio Fagi*; *Scarabeus Melolontha*; *Aphis Fagi*, feed upon both species. LINN. A horse kept at grass eats it. Mr. HOLLEFEAR. In some parts of Hertfordshire, where the soil is a strong clay full of flints, these trees grow to a very large size, and are of extreme beauty. It does not relish a light soil. No tree is more beautiful when standing singly in parks or ornamental grounds, as it throws out its branches very regularly, and feathers almost to the ground. In woods or groves it grows clear of branches to a great height. Mr. WOODWARD. (The beautiful variety with blood red or purple foliage may be propagated by engrafting on the common stock and is extremely ornamental in shrubby grounds. E.)

dye-houses.] (Between Crosby and the sea, near Liverpool. Dr. BOSTOCK. Common on waste ground in Norfolk, and Suffolk, in places where probably none was ever grown for the dyers. Mr. WOODWARD. E.) A. June—July.*

lu'tea.

R. All the leaves 3-cleft; the lower winged.

Dicks. h. s.—E. bot. 321—*Jacq. austr.* 353—*Ger.* 216. 1—*Lob. adv.* 76—*Ger. em.* 277. 1—*Park.* 823. 2—*Pet.* 38. 11—*J. B.* iii. 467.

Calyx segments six, strap-shaped, the uppermost the smallest. *Petals* six. *Stamens* to twenty. RELHAN. *Flowers* pale yellow.

Rocket Yellow-weed. Base Rocket. Corn fields, meadows, pastures, chiefly in a calcareous soil; sometimes on walls. On a wall at Clifton near Bristol. Mr. SWAYNE.—Between Sunderland and South Shields. Mr. ROBSON.—(Norfolk and Suffolk, on a chalky soil, frequent. Mr. WOODWARD. E.)

A. June—Aug.

Var. 2. Curled-leaved.

Bocc. pl. var. 41. 3. at p. 76—*Pluk.* 55. 4.

Barren closes about Roe-hill and Northfleet. (At Walderswick Suffolk. Mr. WOODWARD. E.)

Ray considers this as a perennial, and therefore a distinct species. It merits further attention. I can only add, that the *R. lutea* is not an uncommon plant in Portugal; that in all the specimens I saw there the leaves were curled, but that by the most attentive examination I could discover no other difference.

EUPHOR'BIA. *Calyx* 1 leaf, distended: *bloss.* 4 or 5 petals, sitting on the calyx; *caps.* 3, united.

(1) *Flowers* solitary.

* This plant affords a most beautiful yellow dye for cotton, woollen, mohair, silk, and linen, and is that which is most commonly used by the dyers for that purpose, as it gives the brightest dye. Blue cloths dipped in a decoction of it become green. The yellow colour of the paint, called Dutch Pink, is obtained from this plant. The tinging quality resides in the stems and roots, and it is cultivated in sandy soils, rich soil making the stalk hollow and not so good. Cattle will not eat it, but sheep sometimes browse it a little.

E. Forked; leaves very entire, half-heart-shaped; flow- Pe'plis.
ers solitary, axillary: stems trailing.

E. bot. 2002—*Chus.* ii. 187. 2—*Lob. obs.* 197. 3—*Ger. em.*
503, 20—*H. ox.* x. 2. 18—*Pet.* 53. 12—*Matth.* 1260—*Ger.*
406. 16—*Park.* 194. 7.

Plant generally red, or purple. Stem forked immediately from the root. Branches trailing, forked, of irregular lengths. Flowers on fruit-stalks. Capsules smooth, tipped with purple. Mr. WOODWARD.

Purple Spurge. Sandy sea shores. Between Penzance and Marketjeu, Cornwall; and Exmouth, Devonshire. (Between Tor Quay and Payngton, Tor Bay. Mr. CULLEN, in *E. bot.* Shore at Aberystwith. Mr. T. F. FORSTER, jun. in *Bot. Guide.* E.)
A. July—Aug.

(2) Umbels with 3 spokes.

E. Umbels with 3 spokes; spokes forked; involucellums Pe'plus.
egg-shaped; leaves very entire, inversely egg-shaped,
on leaf-stalks.

Curt.—E. bot. 959—*Fl. dan.* 1100—*Dod.* 375. 2—*Lob. obs.*
197. 2—*Ger. em.* 503. 19—*Park.* 194. 6—*H. ox.* x. 2. 11—
Pet. 53. 11—*Ger.* 406. 15—*Walc.*

Leaves alternate. Involucrum egg-shaped. All the flowers fertile. Petals with two horns. Fruit smooth, or only rough at the edge. LINN. Umbel spokes divided and subdivided into forks three and four times, the divisions wide apart. Blossoms yellowish green.

Petty Spurge. Rich cultivated soil. A. July—Aug.

E. Umbels with 3 spokes; spokes forked; involucellums exiguæ.
spear-shaped; leaves strap-shaped.

Dicks. h. s.—E. bot. 1336—*Trag.* 296—*Curt.* 215—*Fl. dan.* 592
—*Ger.* 503. 17—*Park.* 193. 5—*Pet.* 53. 6—*H. ox.* x. 2. 5.

Petals four, crescent-shaped. Leaves of the Involucrum, and Involucellum not broader than those of the stem. Fruit smooth. LINN. Plant sometimes simple, upright, but in a more luxuriant growth there is sometimes a pair of branches bearing three-spoked umbels, rising from the lower part of the stem. Terminating umbel sometimes with four or five spokes, generally twice forked, sometimes more. Involucrum of two or three, sometimes of four leaves, sessile, bent back, more or less

tapering to the point. *Involucellum* of two leaves, sessile, hollowed out on one side. *Stamens* five to nine, swelling out into a globular form close under the anthers. *Summits* six.

Dwarf Spurge. E. exigua acuta. LINN. Leaves pointed. RAY. In some native specimens the leaves are bluntly pointed, but I have never seen a native one of the *E. exigua retusa*. Dr. STOKES. Corn fields. A. July—Sept.

Var. 2. Umbel with five spokes. RELHAN.

Euphorbia segetalis. MARTIN catal. WOODWARD. *E. platyphyllos*, β . HUDS. Comberton Hill, Cambridgeshire. Mr. RELHAN.

Lathyris. (E. Umbels of 4 branches, repeatedly forked; leaves opposite, sessile, entire, (heart-shaped at the base. E. bot.)

E. bot. 2255—Bulliard *Fr. t.* 103—Fuchs. 455—Cam. *epit.* 968—Ger. *em.* 503.

Herb of a dark, but glaucous green. *Stem* solitary, two to four feet high, upright, cylindrical, hollow. *Leaves* numerous, opposite, oblong, sessile, entire, spreading, crossing each other in pairs, heart-shaped at the base. *Involucrum* general and partial, heart-shaped, pointed. *Flowers* pale yellow, with tinges of purple about them and their stalks. *Capsules* large, smooth, when recent abounding with a virulent milky juice. *E. bot.*

Caper Spurge. Certainly wild in several places in and near the parish of Upton, near Reading, springing up in dry stony thickets periodically for a year or two after they have been cut, and still choked by briars. Rev. Dr. BEEKE, in *Bot. Guide.* B. July. E.)

(3) Umbels with 5 spokes.

Paralias. E. Umbels with generally 5 spokes; spokes cloven; involucellums heart-kidney-shaped; leaves tiled upwards.

Jacq. hort. 188—*E. bot.* 195—*Dod.* 370. 1—*Ger. em.* 498. 1—*H. ox. x. i.* 24—*Park.* 184—*Pet.* 53. 8—*Ger.* 401. 1—*Matth.* 1252—*Dod.* 370. 2.

Petals entire. *Plant* sea-green. LINN. *Leaves* very entire, somewhat pointed. JACQUIN. *Stems* numerous, ascending, thickly tiled with leaves, lower part generally red. *Leaves* smooth, fleshy, pointing upwards, gradually increasing in size

from below; the lower ones strap-spear-shaped, or oblong, sessile, the upper ones oval-spear-shaped, half embracing the stem. *Fruit* very large, smooth. **WOODWARD.** The shortness of the spokes of the umbel, and the leaves pointing nearly upright, lying one over another so closely as to hide the stem, at once distinguish this from all its British congeners. When cultivated in a garden the leaves become more expanded.

Sea Spurge. Sea shores. Between Southwold and Dunwich, Suffolk. **Mr. WOODWARD.** Cornwall. **Mr. WATT.** West side of Walney Isle. **Mr. ATKINSON.** (Sand Hills about Formby, near Liverpool. **Dr. BOSTOCK. E.**) Dawlish, Devon. May—Sept.

E. Umbel with 5 spokes; spokes forked; involucellums Portlan'dica. somewhat heart-shaped, concave; leaves strap-spear-shaped, smooth, expanding.

E. bot. 441—*Ray* 24. 6. at p. 479.

Stems rather shrub-like, a hand's breadth high, smooth, cylindrical, red during the winter. *Leaves* alternate, nearly sessile, with a sharp point at the end, red underneath at the base. *Little branches* from the side from the bosom of the leaves; the lower barren, but at length growing out and resembling the stem. *Spokes* wide-spreading. *Involucrum* similar to the leaves. *Involucellum* sharp-pointed. *Flowers* nearly sessile, yellow, the first and second with only stamens; petals very blunt and without horns; the rest with stamens and pistils, and horned. *Fruit* smooth, but the corners rough with sharp points. **LINN.** *Spokes* from three to five. *Central-florets*: calyx with five sides, five blunt corners, and five slight clefts; segments more or less toothed at the end. *Petals* hairy on the inner side. *Stamens* eight or nine. *Lateral florets*: calyx segments four. *Petals* four. *Stamens* fourteen or more. *Filaments* surrounded at the top with a ring. In all at the base of the flower are several flat, slender, skinny, woolly substances, cloven at the end. *Leaves* strap-egg-shaped.

Portland Spurge. Sandy sea shores. On the neck of land joining Portland to Dorsetshire. Near Exmouth, Devonshire, and near Caernarvon. [**Cornwall. Mr. WATT.** Lulworth Cove, Dorsetshire.] A. May—Aug.

E. Umbel with 5 spokes, spokes with 3 divisions, and helioscopia. these forked; involucellums inversely egg-shaped; leaves wedge-shaped, serrated.

Curt.-Kniph. 12-*E. bot.* 883-*Walc.-Lob. obs.* 192. 2-*Ger. em.* 498. 2-*Park.* 189-*H. ox.* x. 2. 9-*Fl. dan.* 725-*Fuchs.* 811-*Trag.* 294-*J. B.* iii. 669. 1-*Ger.* 401. 2-*Pet.* 53. 10-*Lonic.* i. 98. 1-*Matth.* 1253.

Leaves alternate. *Spokes* of the umbel twice divided into three, and these again forked. *Involucrum* leaves five, similar to those of the stem. *Involucellums* of three leaves; at the forks two leaves. *Petals* four, entire. All the *flowers* hermaphrodite. *Fruit* smooth. LINN. (*Capsule* quite destitute of warts or pubescence. *E. bot.* E.)

Wart-wort. *Sun Spurge.* Common in cultivated places, as gardens and corn fields. A. July—Aug.

platyphilla. E. Umbel with four or five spokes, spokes with three divisions, and these forked; involucellums hairy along the keel; leaves serrated, spear-shaped; cupsules warty.

Jacq. austr. 376-*Kniph.* 9-*Fuchs.* 813-*J. B.* iii. 670-*H. ox.* x. 3, row 2, 1.

Upper part of the plant greenish yellow. *Stem* upright a foot high, smooth. *Leaves* alternate, distant, expanding, smooth, finely serrated, nearly embracing the stem, with scattered hairs along the keel; the lower almost on leaf-stalks-broader towards the end; the upper nicked at the base, and above the base bent down at the sides. *Involucrum* spear-shaped. *Involucellums* egg-oblong; the rest egg-heart-shaped, all finely serrated. *Petals* entire, nearly circular, yellow. *Germens* obscurely warty. *Umbellules* with three divisions, from the bosom of the leaves. LINN. *Stem* unbranched, upright, about a foot high, smooth, but with a few scattered hairs. *Leaves* alternate, spear-shaped, very finely serrated, smooth above, hairy underneath, half embracing the stem. *Umbel* terminating, with five spokes, sometimes though rarely with three; spokes forked hairy. *Involucrum* five leaves, spear, or spear-egg-shaped, serrated. *Involucellums* half heart-shaped, serrated. *Capsule* surface rather granulated, but hardly to be called rough. Whole plant of a delicate yellowish green, not at all disposed to send out branches or lateral umbels. *Spokes* when in flower, a quarter of an inch long, in fruit half an inch or somewhat more. (*Seeds* convex on both sides, very smooth. E.)

Warty Spurge. Corn fields. Black Notley, Essex. Between Harefield, Common and Battle's-well. Near Northfleet. [Ripton, Huntingdonshire. Mr. WOODWARD. Isle of Wight.

St. Amongst the corn on Salisbury Plain.] (On the North side of Eversden Wood; in a field called the Three-cornered Ground, Cambridgeshire. RELHAN.—In Corn near Bedford. ABBOT.—Matterly Farm, four miles from Winchester towards Abresford. Dr. SIBTHORPE. At Ore near Hastings. Mr. J. Woods jun. in *Bot. Guide*. E.) A. July—Aug.

(Var. 2. Only to be distinguished as a smaller plant, and more slender than the preceding, umbel with four spokes, though sometimes three. The hairiness varies in both varieties, but the keel of the involucrellum is never entirely destitute of hairs. *Fl. Brit.*

E. bot. 333.

Euphorbia stricta. LINN.—*E. bot.*—WITH v. 4. 404. Ed. 3. and Ed. 4.—SYM. Syn. *E. verrucosa*. HUDS.—WITH. 449. Ed. 3.—RELH. Ed. 1. *Tithymulus verrucosus*. RAI Syn. *E. platyphylla*, var. β . *Fl. Brit.* RELH. Ed. 1802. A very rare plant. On the North side of Eversden Wood, with the former. Also near Gransden Lodge, Cambridgeshire. Rev. R. RELHAN. Near Ripton, Huntingdonshire. Mr. WOODWARD. In a corn field near Rickling, Essex. Mr. E. FORSTER, jun. in *Bot. Guide*. Plentifully in a field of Vetches on Langton Farm, near Blandford. PULTENEY. About Selborne, Hampshire. Mr. YALDON, in *Bot. Guide*. Near York. RAY. At the end of Collet's Wood, near the rookery at Prior-park, Somersetshire. Mr. SOLE. E.)

(4) *Umbels with 6 spokes.*

E. Umbels with 6 spokes, spokes forked; involucrellums Hyberna, oval; leaves very entire; branches none; capsules warty.

E. bot. 1337—*Dill. elth.* 290. 374—*Kniph.* 9—*Clus.* ii. 190. 1—*Dod* 372. 2—*Lob. obs.* 196. 2—*Ger. em.* 500. 12—*Park.* 188. 11—*Pet.* 53. 7—*H. ox.* x. 2.

Leaves oblong, either hairy or smooth. *Fruit* very warty. LINN. *Umbel* sometimes with only five spokes. *Leaves* nearly strap-shaped, pointed. Solitary fruit-stalks frequently arising from the bosom of several of the upper leaves.

Makinboy. Knotty-rooted Spurge. Irish Spurge. Corn fields near Twittenham Park, Richmond; and near Otterspool; and between Faversham and Sittingbourne, Kent; also in Ireland. P. Aug.

(5) *Umbels with many spokes.*

E'sula.

E. Umbel with many spokes, spokes cloven into two; involucellums, nearly heart-shaped; petals generally two-horned; leaves on the barren branches uniform.

E. bot. 1399—*Hall. hist. Helv.* 1046—*Scop. carn.* 580.

All the *Flowers* fertile. *Petals* four, of a yellowish colour, indistinctly divided into two horns. *Fruit* smooth. *Umbels* forked from the sides of the stem. LINN. (*Root* woody, creeping. *Stems* one to two feet high, upright, smooth. *Lateral branches* numerous, leafy, chiefly without flowers, except the uppermost. *Capsule* without warts or hairs. E.)

Leafy-branched Spurge. This plant, now first ranked as a native of Britain, was sent by Mr. BROWN, who says it was found in the Hopetown Woods, Linlithgowshire, by Mr. J. M'RAY; and also in a wood about sixteen miles South from Edinburgh by Mr. Keil; in both these places undoubtedly wild. (Dr. Smith has since reported the root to have been found at Slinfold, Sussex, which is confirmed by Mr. BORRER, (in *Bot. Guide*) who finds it plentifully near the Parsonage; but suspects it may have escaped originally from the garden.

P. July. E.)

Chara'cias.

E. Umbel with many spokes, spokes forked; involucellums perforated, notched at the end; leaves very entire; stem shrub-like.

Jacq. ic. i.—Kniph. 1—*Riv. tetr.* 227. *Esula caule crasso.—Clus. i.* 188. 1—*Dod.* 368. 2—*Lob. obs.* 194. 2—*Ger. em.* 499. 8—*Park.* 186. f. 2, from the left.—*J. B. iii.* 672—*Matth.* 1250.

Stem four feet high, somewhat woolly. *Leaves* spear-shaped, leather-like, somewhat downy, reflected, green, with an elevated rib on each side. *Umbel* small, crowded; spokes only once forked. *Involucrum* leaves several, small, rather spear-shaped, reflected. *Involucellums* cloven half way down. *Petals* 4, purple. *Flowers* within the first involucellum male, the rest hermaphrodite. LINN. *Lateral branches* numerous; stem-leaves closely tiled; floral-leaves bent back. *Spokes* short. Mr. WOODWARD. *Whole plant*, except the flowers, woolly. The stem, the edges and the mid-ribs of the lower leaves sometimes tinged with red. *Lateral fruit-stalks* numerous, solitary. *Umbel* spokes 7 or 8, less than an inch in length. *Involucrum* leaves

inversely egg-shaped, entire. *Involucellum* leaflets slightly notched at the end. *Petals* dark purple, almost black. *Germs* very woolly.

Red Spurge. Woods and hedges, but rare. (Not now to be found) in Heywood Park, see Ray, and Plot's Staffordshire. On Malvern hill, between the Inn and the Wells. Near the great road betwixt Yoxall and Sudbury, Needwood Forest. Mr. WHATELY.—(There is some reason to apprehend that this rare plant has disappeared from the latter situation within these few years. The forest has recently been inclosed. E.) S. June.*

E. Umbel with many spokes; spokes forked; involucel- *Cyparissias*.
lums nearly heart-shaped; leaves on the stem spear-shaped, on the barren branches bristle-shaped.

Jacq. austr. 435—*E. bot.* 840—*Kniph.* 12—*Fuchs.* 812—*Blackw.* 163. 3—*Cam. epit.* 964.

The slender fir-like leaves on the barren branches at once distinguish this from the other British species. In its young state the umbel is very compact and almost globular, but as it expands the spokes grow out to the length of one inch and a half, and are about seven in number.

Woods at the Earl of Stamford's, at Enville, Staffordshire.—(On the walls of Hulf Abbey, near Alnwick; and on hedges three miles and a half south of Alnwick. Mr. WINCH, in *Bot. Guide*. Barton Leat Wood, Bedfordshire. Rev. Dr. ABBOT. E.) May—June.

E. Umbel with many spokes; spokes forked; involucel- *amygdaloides*.
lums perforated, circular; leaves blunt.

E. bot. 256—*Walc.*—(the old fig. are too bad to quote.)

Leaves alternate, remote, thin, not leather-like and stiff. Some lateral umbels. Differs from *E. sylvatica* in its circular involucellums. In *E. sylvatica* they are extended to a point. LINN. The flowering part of the stem during

* The powdered leaves, in doses of 15 to 25 grains, operate as a purge. The juice of every species of Spurge is so acrid, that it corrodes and ulcerates the body wherever it is applied, so that physicians have seldom ventured to use it internally. Warts or corns anointed with the juice soon disappear. A drop of it put into the hollow of a decayed and aching tooth, destroys the nerve, and consequently removes the pain. It is sometimes rubbed behind the ears, that it may blister, and by that means give relief. In case of dangerous inflammation from the acrid milky juice, Dr. Smith recommends oil to be plentifully applied. E.)

DODECANDRIA. DODECAGYNIA. Sempervivum.

flowering grows to more than twice its original length. *Lateral flowering branches* numerous, twice forked. *Involucrum* leaves 5, roundish-inversely-egg-shaped. *Involucellum* circular or elliptical, cloven half way down on each side, and rounded at each extremity, with a small point just perceptible to the naked eye. *Petals* crescent-shaped, yellow. *Root-leaves* downy underneath. **St.**

Wood Spurge. Woods and hedges, [in a clayey soil, frequent. **Mr. WOODWARD.**—Devonshire and Somersetshire, common.]

P. May.

A variety with variegated leaves is often cultivated in gardens.

DODECAGYNIA.

SEMPERVIVUM. *Calyx*. 12-cleft: *petals* 1, 6, 12, to 24: *caps.* 12, many-seeded, like a legumen.

tecto'rum. **S.** Leaves fringed; off-sets expanding.

Schmid. 53—*Curt.* 160—*E. bot.* 1320—*Fl. dan.* 601—*Mill. ill.*—*Sheldr.* 59—*Trag.* 376—*Fuchs.* 32—*J. B.* iii. 687—*Blackw.* 366—*Clus.* ii. 63. 2—*Matth.* 1117—*Dod.* 127. 2—*Ger. em.* 510. 1—*Park.* 731. 3—*Ger.* 411—*H. or.* xii. 7. 41.

Flowering branches bowed back. *Blossom* pale red. **St.** *Leaves* fleshy. *Calyx* not half so long as the blossom. *Teeth* 11 or 12. *Petals* 12, smooth within, fringed with pellucid hairs at the edges, and on the outside. *Stamens* 6 to 25. *Pistils* 12, placed in an oval or triangular form.

Cyphel. *Common Houseleek.* Roofs and old walls. **P. July.***

* The juice, either applied by itself, or mixed with cream, gives present relief in burns, and other external inflammations. Mixed with honey, it is a useful application in apthous cases. Sheep and goats eat it.

END OF THE SECOND VOLUME.

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